




## 2. Provide Link for Additional information

This document is attested from pages 1 to 31

  
**Dr. E. VIJAYAKRISHNA RAO**  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.S.T.E., F.I.I.P.E., M.O.S.I.M.C.I.I.,  
**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.





Australian Government  
IP Australia

# CERTIFICATE OF GRANT INNOVATION PATENT

**Patent number:** 2021102237

The Commissioner of Patents has granted the above patent on 2 June 2021, and certifies that the below particulars have been registered in the Register of Patents.

**Name and address of patentee(s):**

I. D. Soubache of Rajiv Gandhi College Of Engineering and, Technology Pondy Cuddalore, East Coast Road Kirumampakkam Puducherry 607403 India

Vaddi Ramesh of Associate Professor & Dean -Research, and Development, Department of Electrical, & Electronics Engineering & Management Golden Valley Integrated Campus Madanapalle, Andhra Pradesh 517325 India

Rajesh Thipparaju of Assistant Professor, Electrical and Electronics Engineering, JB institute of Engineering & Technology Moinabad ,Ranga reddy Telangana 500075 India

Rajasekhar Gorthi of Assistant Professor, Electrical and Electronics Engineering, J.B.Institute of Engineering & Technolgy Moinabad ,Ranaga reddy Telangana 500075 India

S Vijayaraj of Department of Electrical and Electronics, Engineering, Vels Institute of Science, Technology and Advanced Studies Chennai Tamil Nadu India

G. Sridhar of HOD & Associate Professor, Electrical Electronics Engineering, Jyothishmathi Institute of Technology and Science. Nustulapur Karimnagar 505481 India

N. Prem Sai of Dept of Mechanical Engg, Sree vidyanikethan Engg College (A) Tirupati Andhra Pradesh 517102 India

T CH Anil Kumar of Assistant Professor, VFSTR (Deemed To Be University) Vadlamudi Andhra Pradesh India

Arif Ali Rehman of Instructor, Yanbu Industrial College Yanbu Western Region Saudi Arabia

Reema Jain of Associate Professor (Senior), Manipal University Jaipur, Dehmi Kalan, Off Jaipur-Ajmer Expressway Jaipur Rajasthan 303007 India

**Title of invention:**

REAL TIME EARLY FAULT PREDICTION OF SWITCHED RELUCTANT MOTORS FOR AUTOMOTIVE APPLICATIONS

**Name of inventor(s):**

Soubache, I. D.; Ramesh, Vaddi; Thipparaju, Rajesh; Gorthi, Rajasekhar; Vijayaraj, S; Sridhar, G.; Sai, N. Prem; Kumar, T. CH Anil; Rehman, Arif Ali and Jain, Reema

**Term of Patent:**

Eight years from 29 April 2021



*me*  
**Dr. E. VIJAYAKRISHNA RAPAKA**  
B.Tech. (Mech.); M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.

Dated this 2<sup>nd</sup> day of June 2021

Commissioner of Patents

**PATENTS ACT 1990**

The Australian Patents Register is the official record and should be referred to for the full details pertaining to this IP Right.

This data, for application number 2021102237, is current<sup>2</sup> as of 2024-06-03 22:31 AEST





Australian Government

IP Australia

# CERTIFICATE OF GRANT INNOVATION PATENT

Patent number: 2021102237

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.



**Dr. E. VIJACKRISHNA RAPAKA**  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
PRINCIPAL

Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.

Dated this 2<sup>nd</sup> day of June 2021

Commissioner of Patents

**PATENTS ACT 1990**

The Australian Patents Register is the official record and should be referred to for the full details pertaining to this IP Right.



**Extracts from the Patents Act, 1990**

**Sect 120(1A)** Infringement proceedings in respect of an innovation patent cannot be started unless the patent has been certified.

**Sec 128 Application for relief from unjustified threats**

(1) Where a person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings a person aggrieved may apply to a prescribed court, or to another court having jurisdiction to hear and determine the application, for:

- (a) a declaration that the threats are unjustifiable; and
- (b) an injunction against the continuance of the threats; and
- (c) the recovery of any damages sustained by the applicant as a result of the threats.

(2) Subsection (1) applies whether or not the person who made the threats is entitled to, or interested in, the patent or a patent application.

**Sec 129A Threats related to an innovation patent application or innovation patent and courts power to grant relief.**

*Certain threats of infringement proceedings are always unjustifiable.*

- (1) If:
- (a) a person:
    - (i) has applied for an innovation patent, but the application has not been determined; or
    - (ii) has an innovation patent that has not been certified; and
  - (b) the person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings in respect of the patent applied for, or the patent, as the case may be; then, for the purposes of an application for relief under section 128 by the person threatened, the threats are unjustifiable.

*Courts power to grant relief in respect of threats made by the applicant for an innovation patent or the patentee of an uncertified innovation patent*

- (2) If an application under section 128 for relief relates to threats made in respect of an innovation patent that has not been certified or an application for an innovation patent, the court may grant the application the relief applied for.

*Courts power to grant relief in respect of threats made by the patentee of certified innovation patent*

- (3) If an application under section 128 for relief relates to threats made in respect of a certified innovation patent, the court may grant the applicant the relief applied for unless the respondent satisfies the court that the acts about which the threats were made infringed, or would infringe, a claim that is not shown by the applicant to be invalid.

**Schedule 1 Dictionary**

**certified**, in respect of an innovation patent other than in section 19, means a certificate of examination issued by the Commissioner under paragraph 101E(e) in respect of the patent

**Dr. E. VEJAYAKRISHNA RAPAKA**  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.





Australian Government

IP Australia

# CERTIFICATE OF GRANT INNOVATION PATENT

Patent number: 2021103997

The Commissioner of Patents has granted the above patent on 25 August 2021, and certifies that the below particulars have been registered in the Register of Patents.

**Name and address of patentee(s):**

Sarath Chandiran. I of Principal, School of Pharmacy, Sri, Balaji Vidyapeeth Deemed to be University SBV Campus, Pillaiyarkuppam Pondicherry 607402 India

Mukta Sharma of Professor, Department of Microbiology, Shree Bankey Bihari Dental College NH- 24, near masuri canal Ghaziabad Uttar Pradesh 201302 India

I. D. Soubache of Rajiv Gandhi College Of Engineering&Tech, Pondy Cuddalore, East Coast Road Kirumampakkam Puducherry 607403 India

Yerram Sneha of Research Scholar, Department of Computer, and Engineering, KL University Hyderabad Telangana 500075 India

P. Bindu of Assistant Professor, Department of Mathematics Koneru Lakshmaiah Education Foundation, Greenfields, Vaddeswaram, Guntur(A.P.) 522502 India

S.G. Raman of Associate Professor, Department of, Pharmaceutical Chemistry, School of Pharmacy Sri Balaji Vidyapeeth Deemed to be University, Puducherry 607402 India

Adarsh Mangal of Department of Mathematics, Engineering College Ajmer NH-8 Near Nareli Jain Temple Badliya Circle Ajmer 305025 India

S. Padmanayaki of College of Computer Science and, Information Technology, Jazan University Jazan Kingdom of Saudi Arabia 45142 Saudi Arabia

Sumanta Bhattacharya of Research Scholar, MaulanaAbdulKalam Azad, University ofTechnology, BF block, Sector1 Bidhannagar, Kolkata West Bengal 700064 India

Ashim Bora of Associate Professor and Head, Department of Mathematics Diphu Government College Assam 782462 India

Chandra Kumar Dixit of Professor and head department of physics, Dean Faculty of science and technology Dr Shakuntala Misra National Rehabilitation University Lucknow UP 226017 India

B Venkata Swamy of Associate professor Department of Chemistry, B V Raju Institute of Technology Narsapur Telangana 502313 India

**Title of invention:**

ARTIFICIAL NEURAL NETWORK BASED BRAIN DISORDER DIAGNOSTIC SYSTEM

**Name of inventor(s):**

Chandiran. I, Sarath; Sharma, Mukta; Soubache, I. D.; Sneha, Yerram; Bindu, P.; Raman, S.G.; Mangal, Adarsh; Padmanayaki, S.; Bhattacharya, Sumanta; Bora, Ashim; Dixit, Chandra Kumar and Swamy, B Venkata

**Term of Patent:**



**Dr. E. VIJAYAKRISHNA RAPAKA**  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.

**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.

Dated this 25<sup>th</sup> day of August 2021

Commissioner of Patents

**PATENTS ACT 1990**

The Australian Patents Register is the official record and should be referred to for the full details pertaining to this IP Right.





Australian Government

IP Australia

# CERTIFICATE OF GRANT INNOVATION PATENT

**Patent number:** 2021103997

Eight years from 9 July 2021

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.



*me*  
**Dr. E. VIJAYAKRISHNA RAPAKA**  
B.Tech. (Mach.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.

Dated this 25<sup>th</sup> day of August 2021

Commissioner of Patents

**PATENTS ACT 1990**

The Australian Patents Register is the official record and should be referred to for the full details pertaining to this IP Right.



**Extracts from the Patents Act, 1990**

**Sect 120(1A)** Infringement proceedings in respect of an innovation patent cannot be started unless the patent has been certified.

**Sec 128 Application for relief from unjustified threats**

(1) Where a person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings a person aggrieved may apply to a prescribed court, or to another court having jurisdiction to hear and determine the application, for:

- (a) a declaration that the threats are unjustifiable; and
- (b) an injunction against the continuance of the threats; and
- (c) the recovery of any damages sustained by the applicant as a result of the threats.

(2) Subsection (1) applies whether or not the person who made the threats is entitled to, or interested in, the patent or a patent application.

**Sec 129A Threats related to an innovation patent application or innovation patent and courts power to grant relief.**

*Certain threats of infringement proceedings are always unjustifiable.*

- (1) If:
- (a) a person:
    - (i) has applied for an innovation patent, but the application has not been determined; or
    - (ii) has an innovation patent that has not been certified; and
  - (b) the person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings in respect of the patent applied for, or the patent, as the case may be; then, for the purposes of an application for relief under section 128 by the person threatened, the threats are unjustifiable.

*Courts power to grant relief in respect of threats made by the applicant for an innovation patent or the patentee of an uncertified innovation patent*

- (2) If an application under section 128 for relief relates to threats made in respect of an innovation patent that has not been certified or an application for an innovation patent, the court may grant the application the relief applied for.

*Courts power to grant relief in respect of threats made by the patentee of certified innovation patent*

- (3) If an application under section 128 for relief relates to threats made in respect of a certified innovation patent, the court may grant the applicant the relief applied for unless the respondent satisfies the court that the acts about which the threats were made infringed, or would infringe, a claim that is not shown by the applicant to be invalid.

**Schedule 1 Dictionary**

**certified**, in respect of an innovation patent other than in section 19, means a certificate of examination issued by the Commissioner under paragraph 101E(e) in respect of the patent

**Dr. E. VIJAYAKRISHNA RAPAKA**  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
PRINCIPAL  
Rajiv Gandhi College of Engineering & Technology  
7 Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.

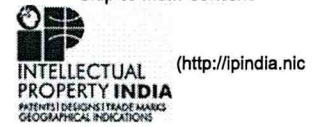


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

[Skip to Main Content](#)



(<http://ipindia.nic.in/index.htm>)



### Patent Search

Invention Title	IOT Based Optimization of Solar Power Generation for Efficient Management of Smart Cities	
Publication Number	45/2020	
Publication Date	06/11/2020	
Publication Type	INA	
Application Number	202041046305	
Application Filing Date	23/10/2020	
Priority Number		
Priority Country		
Priority Date		
Field Of Invention	COMMUNICATION	
Classification (IPC)	H04W 12/06	
Inventor		
Name	Address	Country
Dr. A. PramodKumar	Vardhaman College of Engineering kacharam, dhamshabadBasavanagudi, Nagarguda Shamshabad Road Telangana India 501218	India
Dr. Joseph Anthony Prathap	Vardhaman College of Engineering Nagarguda Shamshabad Road Kacharam, Hyderabad Telangana India 501218	India
Sivakumar R. D.	Assistant Professor, Department of Computer Science, Ayya Nadar Janaki Ammal College Srivilliputtur Road Sivakasi West, Tamil Nadu India 626124	India
Mr.S.Aswoth	Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology No.42, Avadi-Vel Tech Road Chennai Tamil Nadu India 600062	India
Dr. I. D. Soubache,	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Dr. Naveen Goel	Shri Shankaracharya Group Of Institutions Add. Junwani Bhilai (C.G.) Chattisgarh India 490020	India
Dr. Vilas Warudkar	Maulana Azad National Institute of Technology Near Mata Mandir, Link Road Bhopal Madhya Pradesh India 462003	India
Dr. Anoop Arya	Maulana Azad National Institute of Technology Near Mata Mandir, Link Road Bhopal Madhya Pradesh India 462003	India
Dr. Anupama Patil	#55, Madhav Baug Row House Ugat Bhesan Road Jahangirabad, Surat Gujarat India 395005	India
Applicant		
Name	Address	Country
Dr. A. PramodKumar,Vardhaman College of Engineering	Vardhaman College of Engineering kacharam, dhamshabadBasavanagudi, Nagarguda Shamshabad Road Telangana India 501218	India
Dr. Joseph Anthony Prathap,Vardhaman College of Engineering	Vardhaman College of Engineering Nagarguda Shamshabad Road Kacharam, Hyderabad Telangana India 501218	India
Sivakumar R. D.,Ayya Nadar Janaki Ammal College	Assistant Professor, Department of Computer Science, Ayya Nadar Janaki Ammal College Srivilliputtur Road Sivakasi West, Tamil Nadu India 626124	India
Mr.S.Aswoth,Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology	Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology No.42, Avadi-Vel Tech Road Chennai Tamil Nadu India 600062	India
Dr. I. D. Soubache,Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Dr. Naveen Goel,Shri Shankaracharya Group Of Institutions	Shri Shankaracharya Group Of Institutions Add. Junwani Bhilai (C.G.) Chattisgarh India 490020	India
Dr. Vilas Warudkar,Maulana Azad National Institute of Technology	Maulana Azad National Institute of Technology Near Mata Mandir, Link Road Bhopal Madhya Pradesh India 462003	India
Dr. Anoop Arya,Maulana Azad National Institute of Technology	Maulana Azad National Institute of Technology Near Mata Mandir, Link Road Bhopal Madhya Pradesh India 462003	India
Dr. Anupama Patil	#55, Madhav Baug Row House Ugat Bhesan Road Jahangirabad, Surat Gujarat India 395005	India



**Abstract:**

Renewable energy is the need of the current era especially solar power generation is demanded by smart communities for its management. Internet of Things (IoT) plays a significant role for developing internet technology for optimization of tools or equipments. In this invention, we develop a smart system for smart management of solar power generation utilizing IoT based solar cell tracker which can be controlled through mobile application. Data collected from the system can be accessed from remote locations through the Internet network. Proposed solar cell tracker system is able to provide optimized performance by the usage of DHT11 sensor, LDR sensor, MPU6050 sensor and voltage sensor. All these sensors are connected through Arduino and hence Thingier.io webpage is utilized to view the real time data using mini LCD and Raspberry. IoT allows human interaction easily with the proposed system as it is connected via internet network. App inventor is utilized for building the control system hence the system can be controlled through a mobile cellular phone from remote location. Wi-Fi connection to the system is provided by the ESP8266 NODE MCU microcontroller. This system with dual axis sun tracker built using 4 LDRs is able to produce an average voltage of 13.8 Volt during rainy weather, 18.06 Volt during cloudy weather and 19.40 during sunny weather.

**Complete Specification**

Claims: 1. Solar power generation is optimized by the usage of AppInventor and Thingier.io which maximizes device performance.  
 2. Dual axis sun tracker device are built using 4 LDRs for producing produce an average voltage of 13.8 Volt during rainy weather, 18.06 Volt during cloudy weather and 19.40 during sunny weather.  
 3. Temperature influences solar power generation which in turn depends on intensity of sunlight.  
 4. Adsorption of sunlight is maximized by usage of three axes namely x axis, y axis and z axis for operating automatic sunlight tracker.  
 5. Availability of power is continuous for management of smart cities even during conventional power shutdowns.  
 6. Arduino and Raspberry pi together operate using Internet to remote access of data and remote control of devices. , Description: Working principle of this invention involves photovoltaic modules and batteries working together providing break-less electrical energy to the load.  
 ? During the day generation of electrical energy is directly from photovoltaic module while energy usage at night is through battery for smart cities.  
 ? Battery control unit acts as a regulator, such that once the system is turned on, solar parts tracking system is initiated once after the initialization process and the microcontroller enters into active mode.  
 ? IoT based controlling is done for the panel position via mobile Apps from remote locations such that solar panel is able to absorb optimal sunlight based on the adjustment of its position for absorbing sunlight.  
 ? The controller is built using the AppInventor platform which is activated by logging in at <http://ai2.appinventor.mit.edu>. The control is based on mobile apps where users need to enter their ID and Password to be active in the system such that user is able to control from any location.

View Application Status



Department of Industrial  
Policy and Promotion  
Government of India

Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
 Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
 Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
 Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

*one*  
**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I, M.C.I.I.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.

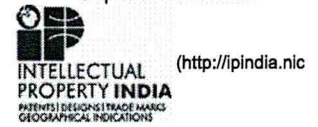


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

[Skip to Main Content](#)



(<http://ipindia.nic.in/index.htm>)



Patent Search

Invention Title	DEEP LEARNING BASED ENERGY SMART ENVIRONMENT FOR IOT ECOSYSTEMS OF SMART CITIES
Publication Number	37/2020
Publication Date	11/09/2020
Publication Type	INA
Application Number	202041037757
Application Filing Date	01/09/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMPUTER SCIENCE
Classification (IPC)	G06N0020000000, G06N0003080000, G06N0007000000, G06N0003040000, G01C0021200000

Inventor

Name	Address	Country
Dr. M. Deivakani	PSNA College of Engineering and Technology, Kothandaraman Nagar, Dindigul, Tamilnadu, India-624622	India
Dr.M.Bindhu	55/2 Jamal shredian Manor -6g, Arcot Road, Saligramam, Chennai, Tamilnadu, India-600093.	India
Dr.S.Asha	120, Thirunandavanam 1st Street, Sri Balaji Nagar, Pattabiram, Chennai, Tamilnadu, India-600072	India
Reddy Shiva Shankar	SRKR Engineering College, Chinnaamiram, Bhimavaram, West Godavari District, Andhrapradesh, India-534204	India
Dr.Kathirvel Chinnasamy	Sri Ramakrishna Engineering College, Vattamalaipalayam, NGGO Colony + Post, Coimbatore, Tamilnadu, India-641022.	India
Dr. I. D. Soubache	Rajiv Gandhi College Of Engineering And Technology, Pondy Cuddalore, East Coast Road, Kirumampakkam, Puducherry, India-607403.	India
Lalit Walia	B-56, 3rd Floor, Golf View Apartment, Saket, New Delhi, India-110017.	India
P Sriram Kumar	Gokaraju Rangaraju Institute of Engineering & Technology, Nizampet Road, Bachupally, Hyderabad, Telangana, India-500090.	India

Applicant

Name	Address	Country
Dr. M. Deivakani	PSNA College of Engineering and Technology, Kothandaraman Nagar, Dindigul, Tamilnadu, India-624622	India
Dr.M.Bindhu	55/2 Jamal shredian Manor -6g, Arcot Road, Saligramam, Chennai, Tamilnadu, India-600093.	India
Dr.S.Asha	120, Thirunandavanam 1st Street, Sri Balaji Nagar, Pattabiram, Chennai, Tamilnadu, India-600072	India
Reddy Shiva Shankar	SRKR Engineering College, Chinnaamiram, Bhimavaram, West Godavari District, Andhrapradesh, India-534204	India
Dr.Kathirvel Chinnasamy	Sri Ramakrishna Engineering College, Vattamalaipalayam, NGGO Colony + Post, Coimbatore, Tamilnadu, India-641022.	India
Dr. I. D. Soubache	Rajiv Gandhi College Of Engineering And Technology, Pondy Cuddalore, East Coast Road, Kirumampakkam, Puducherry, India-607403.	India
Lalit Walia	B-56, 3rd Floor, Golf View Apartment, Saket, New Delhi, India-110017.	India
P Sriram Kumar	Gokaraju Rangaraju Institute of Engineering & Technology, Nizampet Road, Bachupally, Hyderabad, Telangana, India-500090.	India

Abstract:

Significant feature of smart cities is the ecosystem with smart services using Internet of Things (IoT) which is the backbone of these intelligent services improved by data collected from sensory network. But it is not feasible to provide huge amount of training data hence incorporation of unlabeled data has to be considered in these scenarios. In the current era, great success is gained by Deep reinforcement learning (DRL) technique in various domains as it can be utilized in smart city scenarios and IoT which partially labeled auto generated data from the feedback of users for training purpose. This invention proposes a semi supervised learning model of deep reinforcement technique which accepts both labeled data and unlabeled data that can fit for the applications of smart cities improving the performance of the learning agent along with accuracy. Optimal policies are generalized by utilizing the model of variational autoencoders acting as inference engine. Smart buildings are focused with the application of proposed model for indoor localization based on signal strength of BLE. Major component of smart cities is indoor localization as people tend to spend more time in buildings.

**Dr. E. VIJAYAKRISHNA RAO**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.



Complete Specification

- Claims: 1. Smart services of smart city are implemented using semi supervised deep reinforcement learning as a mechanism to support these services.  
 2. Data set involves large set of unlabeled data and smaller set of labeled data used for training purpose of learning mechanism.  
 3. Learning approach of semi-supervised reinforcement is extended for utilizing in deep reinforcement learning.  
 4. Best policies are learnt by taking optimal actions by the network of deep variational autoencoder.  
 5. System of indoor localization is focused in this invention for generalizing the policy of positioning of the configuration.  
 6. Better results are obtained for smart services of smart cities with increased accuracy of localization using semi-supervised model. , Description: Smart city environment is represented by set of positions indicated by row number and column number where each of the position is associated with a set of RSSI values from the deployment of iBeacons.  
 7 Environment is observed by the agent by receiving the RSSI values every time, where the agent takes the action based on recent three observations of RSSI, where the agent chooses one of the 8 actions to move in various directions based on which agent receives positive reward or negative reward based on the proximity of the right point.  
 7 Position of the device is approximated by the agent by receiving RSSI

View Application Status



Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
 Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
 Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
 Help (<http://ipindia.gov.in/help.htm>)  
 Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

*one*  
**Dr. E. VIJAYAKRISHNA RAKA**

B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.,

**PRINCIPAL**

Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.



Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)

Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)

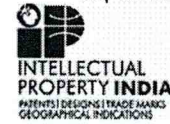
RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)

Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/help-line-page.htm>)

[Skip to Main Content](#)



(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic>)

### Patent Search

Invention Title	ENCRYPTION BASED SECURITY SOLUTION FOR DATA COMMUNICATION OF IOT DEVICES
Publication Number	36/2020
Publication Date	04/09/2020
Publication Type	INA
Application Number	202041034520
Application Filing Date	11/08/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMMUNICATION
Classification (IPC)	H04L0029080000, H04L0029060000, H04W0004700000, G06F0021620000, G06F0009540000

#### Inventor

Name	Address	Country
Dr. Dharmiah Devarapalli, Shri Vishnu Engineering College For Women (Autonomous)	Shri Vishnu Engineering College For Women (Autonomous) Vishnupur Bhimavaram Andhra Pradesh India 534202	India
Dr.B.Deevena Raju, IcfaiTech, IFHE	IcfaiTech, IFHE Donthanapally, Sankarapally Road Hyderabad Telangana India 501203	India
S Mohan babu Chowdary, Sir C R Reddy College of Engineering	Sir C R Reddy College of Engineering Post Peddapadu Mandal Eluru Andhra Pradesh India 534007	India
Madhu Bandari, IcfaiTech, IFHE	IcfaiTech, IFHE Donthanapally, Sankarapally Road Hyderabad Telangana India 501203	India
Dr. Velmurugan J, Sri Venkateswara College of Engineering and Technology	Sri Venkateswara College of Engineering and Technology RVS Nagar Chittoor Andhra Pradesh India 517127	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Pramod Madhavrao Kanjalkar	Flat no. 201 Arvind Apartment, Swaroop Colony, Anandnagar Pune Maharashtra India 411051	India
Asisa Kumar Panigrahy, Gokaraju Rangaraju Institute of Engineering & Technology	Gokaraju Rangaraju Institute of Engineering & Technology Nizampet Road, Bachupally, Hyderabad Telangana India 500090	India
S. Baba Fariddin, St. Mary's Womens Engineering College	St. Mary's Womens Engineering College Guntur-Ponnur Road, Budampadu Post, Guntur Andhra Pradesh India 522017	India

#### Applicant

Name	Address	Country
Dr. Dharmiah Devarapalli, Shri Vishnu Engineering College For Women (Autonomous)	Shri Vishnu Engineering College For Women (Autonomous) Vishnupur Bhimavaram Andhra Pradesh India 534202	India
Dr.B.Deevena Raju, IcfaiTech, IFHE	IcfaiTech, IFHE Donthanapally, Sankarapally Road Hyderabad Telangana India 501203	India
S Mohan babu Chowdary, Sir C R Reddy College of Engineering	Sir C R Reddy College of Engineering Post Peddapadu Mandal Eluru Andhra Pradesh India 534007	India
Madhu Bandari, IcfaiTech, IFHE	IcfaiTech, IFHE Donthanapally, Sankarapally Road Hyderabad Telangana India 501203	India
Dr. Velmurugan J, Sri Venkateswara College of Engineering and Technology	Sri Venkateswara College of Engineering and Technology RVS Nagar Chittoor Andhra Pradesh India 517127	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Pramod Madhavrao Kanjalkar	Flat no. 201 Arvind Apartment, Swaroop Colony, Anandnagar Pune Maharashtra India 411051	India
Asisa Kumar Panigrahy, Gokaraju Rangaraju Institute of Engineering & Technology	Gokaraju Rangaraju Institute of Engineering & Technology Nizampet Road, Bachupally, Hyderabad Telangana India 500090	India
S. Baba Fariddin, St. Mary's Womens Engineering College	St. Mary's Womens Engineering College Guntur-Ponnur Road, Budampadu Post, Guntur Andhra Pradesh India 522017	India

**Dr. E. VIJAYAKRISHNA RAPAKA**  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.,  
**PRINCIPAL**

Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Mam Road,  
Kirumampakkam Puducherry 607 402.



**Abstract:**

Modern era is conquered by the fairly disruptive technology of Internet of Things (IoT) which has unimaginable capability, growth and impact. Devices using this tech demands incredible security and data privacy as same cloud connects several devices; hence there is possibility of data leakage. This invention presents the impleme Representational State Transfer (REST) Application Programming Interface for IoT devices based on the concepts used in IoT technology which keeps record of events devices along with count of everything. These devices are connected to the cloud server utilizing the concept of middleware. But new applications using IoT in the clo security threats for data privacy. Hence there is requirement of innovative system for securing innovative IoT devices which avoids hackers from entering the network devices along with securing transit of data into the cloud from the IoT devices. This invention provides the method of securing IoT devices connected to cloud and us exposing them using REST API. Device data is primarily exposed using middleware via REST thereby hiding details acting as an interface between sensor data and the

**Complete Specification**

- Claims:1. End to end security is provided by the proposed middleware architecture for the users uploading data collected by sensors.  
 2. Data in transit is secured by this approach via end to end encryption technique.  
 3. All constraints of IoT system for data communication are considered in this middleware architecture.  
 4. Exchange of data and communication is done by utilizing Representational State Transfer (REST) Application Programming Interface (API).  
 5. Development of IoT devices is assisted successfully by the proposed middleware by exposing REST API.  
 6. Interface is provided for registration of IoT devices by the users for secured data accessing collected by IoT devices. , Description:? This invention proposes a secu framework for IoT devices ensuring end to end security for IoT applications involving these IoT devices.  
 ? IoT system security can be evaluated by analysis of each component integrated together to form the system.  
 ? IoT devices are not directly connected to the internet and are kept isolated having no interaction with the real world but connected to a gateway which acts as an i in between connecting the IoT devices to the internet requiring authentication for accessing.  
 ? This gateway does not require any inbound ports and these gateway devices remain hidden behind the firewalls in multiple layers in enterprise, hence there is no possibility for any attackers to comprise the IoT devices for hacking their private data.  
 ? IoT gateway is acting as an intermediate layer between the middleware and IoT devices such that these devices can access internet only through gateway via authentication.  
 ? In turn REST API is called by enabling gateway by which all the information can be exchanged in a secured way.

View Application Status



**Department of Industrial  
Policy and Promotion**  
Government of India

Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
 Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
 Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
 Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

**Dr. E. VIJAYAKRISHNA RAPAKA**

B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,

**PRINCIPAL**

Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.

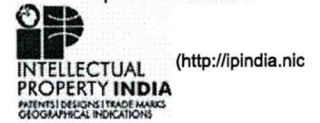


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

Skip to Main Content



(<http://ipindia.nic.in/index.htm>)



## Patent Search

Invention Title	AN AUTOMATED AND INTEGRATED MOBILE APP FOR HANDLING ROAD ACCIDENT AND EMERGENCY SITUATION SMARTLY	
Publication Number	41/2020	
Publication Date	09/10/2020	
Publication Type	INA	
Application Number	202041041120	
Application Filing Date	23/09/2020	
Priority Number		
Priority Country		
Priority Date		
Field Of Invention	ELECTRICAL	
Classification (IPC)	B60Q1/30	
Inventor		
Name	Address	Country
S.Devasigamani	Senior Lecturer, Faculty of Engineering and Computer Technology, AIMST University, 08100 Jalan Semeling-Bedong, Kedah Darul Aman, Malaysia. +60103735611 devasigamani@aimst.edu.my	India
Dr.B.Annapurna	Associate Professor Department of Computer Science Engineering, Aditya College of Engineering, Aditya Nagar, ADB Road, E.G.Dist, Surampalem-533437. 9440896722 annapurnagandrey@gmail.com	India
Raushan Kumar Singh	Technical Director, Innovation Development, Spectrum Solutions, 1st Floor, SBI Bank, Ariyankuppam, Pondicherry -07. 9380474850 td@spectrumultra.com	India
Dr.G.Devadasu	Professor & Head of The Department, Department of Electrical & Electronics Engineering, CMR College of Engineering & Technology, Kandlakoya, Medchal Road, Hyderabad-501401. 9885286162 gdevadas10@gmail.com	India
Dr.S.Vijayalakshmi	Professor, School of Computing Science and Engineering, Galgotias University Plot No.2, Sector 17-A Yamuna Expressway, Greater Noida, Gautam Buddh Nagar, Uttar Pradesh, India 203 201. 990353845 svijisuj@gmail.com	India
Dr.C.Thanavathi	Assistant Professor, Department of History, V.O.C.College of Education, Thoothukudi-628008. 9629256771 cthanavathi.tuty@gmail.com	India
Dr.UdaraYedukondalu	Associate Professor, Department of Electronics and Communication Engineering Sri Vasavi Engineering College, Pedatadepalli, Tadepalligudem-534101, West Godavari District, Andhra Pradesh. 9849437940, 8008465666, drykudara@gmail.com	India
Dr. I. D. Soubache	Associate Professor, Department of Biomedical Engineering, Rajiv Gandhi College of Engineering & Technology PondyCuddalore, East Coast Road, Kirumampakkam, Puducherry- 607403. 9626300600 idsoubache@gmail.com	India
Dr. H. Sudheer	Assistant Professor, Department of Electrical and Electronics Engineering, ICFATEch (Faculty of Science and Technology), IFHE Campus, Donthanapally, Shankarapalli Road, Hyderabad - 501203, Telangana. 9949119906 sudheer_hraj@yahoo.co.in	India
Dr. Capt. K. Sujatha	Professor & Head of Department, Department of Mathematics, St. Joseph's College for Women (Autonomous), Gnanapuram. Near Convert Junction, Visakhapatnam-530004. 9885480568 sujatha@stjosephsvizag.com	India
Er. S. John Pimo	Assistant Professor, Department of Computer Science and Engineering, St.Xavier's Catholic College of Engineering, Chunkankadai, Nagercoil, Kanyakumari District, Tamil Nadu - 629 003. 9843257505 johnpimo@gmail.com	India
Applicant		

**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.



Name	Address	Country
S.Deivasigamani	Senior Lecturer, Faculty of Engineering and Computer Technology, AIMST University, 08100 Jalan Semeling-Bedong, Kedah Darul Aman, Malaysia. +60103735611 deivasigamani@aimst.edu.my	India
Dr.B.Annapurna	Associate Professor Department of Computer Science Engineering, Aditya College of Engineering, Aditya Nagar, ADB Road, E.G.Dist, Surampalem-533437. 9440896722 annapurnagandrey@gmail.com	India
Raushan Kumar Singh	Technical Director, Innovation Development, Spectrum Solutions, 1st Floor, SBI Bank, Ariyankuppam, Pondicherry -07. 9380474850 td@spectrumultra.com	India
Dr.G.Devadasu	Professor& Head of The Department, Department of Electrical & Electronics Engineering, CMR College of Engineering & Technology, Kandlakoya,Medchal Road, Hyderabad-501401. 9885286162 gdevadas10@gmail.com	India
Dr.S.Vijayalakshmi	Professor, School of Computing Science and Engineering, Galgotias University Plot No.2, Sector 17-A Yamuna Expressway,Greater Noida, Gautam Buddh Nagar, Uttar Pradesh, India 203 201. 990353845 svijisuji@gmail.com	India
Dr.C.Thanavathi	Assistant Professor, Departement of History, V.O.C.College of Education, Thoothukudi-628008. 9629256771 cthanavathi.tuty@gmail.com	India
Dr.UdaraYedukondalu	Associate Professor, Department of Electronics and Communication Engineering Sri Vasavi Engineering College, Pedatadepalli, Tadepalligudem-534101, West Godavari District,Andhra Pradesh. 9849437940,8008465666, drykudara@gmail.com	India
Dr. I. D. Soubache	Associate Professor, Department of Biomedical Engineering, Rajiv Gandhi College of Engineering & Technology PodyCuddalore, East Coast Road, Kirumampakkam, Puducherry- 607403. 9626300600 idsoubache@gmail.com	India
Dr. H. Sudheer	Assistant Professor, Department of Electrical and Electronics Engineering, ICFAITech (Faculty of Science and Technology), IFHE Campus, Donthanapally, Shankarapalli Road, Hyderabad - 501203, Telangana. 9949119906 sudheer_hraj@yahoo.co.in	India
Dr. Capt. K. Sujatha	Professor & Head of Department, Department of Mathematics, St. Joseph's College for Women (Autonomous), Gnanapuram. Near Convert Junction, Visakhapatnam-530004. 9885480568 sujatha@stjosephsvizag.com	India
Er. S. John Pimo	Assistant Professor, Department of Computer Science and Engineering, St.Xavier's Catholic College of Engineering, Chunkankadai, Nagercoil, Kanyakumari District, Tamil Nadu - 629 003. 9843257505 johnpimo@gmail.com	India

**Abstract:**

AN AUTOMATED AND INTEGRATED MOBILE APP FOR HANDLING ROAD ACCIDENT AND EMERGENCY SITUATION SMARTLY ABSTRACT OF THE INVENTION Road transport primary mode of transport in India and so many accidents happens every day. Ambulance services are available all over the country for earlier diagnosis. Due to various circumstances in the present system, the people may lead to death before going for the first aid. This issue can be resolved by introducing an Integrated and Smart App which alarms the respective service provider as soon as possible and hence saves the human life. By means of using this App, any user can notify the nearby ambulance hospital directly without an intermediate service provider. It eliminates the third party completely to minimize the ambulance's time in reaching the accident zone. It verifies the truthfulness of incident through the accident's zone image/video given by the user. Blood donors list with their name, address, phone number and their blood available to handle the patient's critical situations.

**Complete Specification****Claims:WE CLAIMS**

1. An Automated alarmed notification sent to the nearby ambulance drivers and hospital without any third party and thus reduces the delay in vehicle arrival time.
2. Proof of the accident is verified digitally and automatically by uploading the image or video of the accident zone and injured person.
3. Hospital authorities can view the patient's condition visually from their location and make required pre-arrangements in-prior accordingly.
4. Once the patient's blood group known, information about the blood requirement is sent to all the nearby donors by tracking their current location, if required. ,

**Description:DETAILED DESCRIPTION OF THE INVENTION**

FIG 1 describes the overall description of the application's process and which clearly states that it has three different users as follows

1. User role
2. Ambulance driver role
3. Hospital role

The overall process involved by three users (user, ambulance driver and hospital) is briefly described below:

1. User role -Process:

? Any user can use this mobile App without any prior registration.

? User informs the ambulance driver who is nearer to the accident's zone by submitting the details like user name, image or video of the accident zone and location automatically fetched by GPS

[View Application Status](#)

**Dr. E. VIJAYAKRISHNA RAPAKA**  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I. M. ...  
**PRINCIPAL**

Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road  
Kirumampakkam, Puducherry - 607 402



राष्ट्रीय मतदाता सेवा पोर्टल  
NATIONAL VOTERS' SERVICES PORTAL

Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

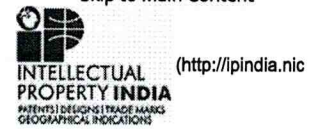


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

Skip to Main Content



(<http://ipindia.nic.in/index.htm>)



## Patent Search

Invention Title	ARTIFICIAL NEURAL NETWORK BASED MACHINE LEARNING INTRUSION DETECTION IN WIRELESS NETWORK USING FEATURE SELECTIO
Publication Number	43/2020
Publication Date	23/10/2020
Publication Type	INA
Application Number	202011042949
Application Filing Date	02/10/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMPUTER SCIENCE
Classification (IPC)	G06K 9/62 H04L 29/06 G06N 20/00

## Inventor

Name	Address	Country
Pushpa Gothwal, Amity University Rajasthan	Amity University Rajasthan NH11C Kant Kalwar, RIICO Industrial Area, Jaipur Rajasthan India 303007	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering and Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Ankur Gupta, Vaish College of Engineering	Vaish College of Engineering Rohtak Station Diary Mohalla Rohtak Haryana India 124001	India
Dr. V. S. Bhagavan, Koneru Lakshmaiah Education Foundation Deemed to be University	Koneru Lakshmaiah Education Foundation, Deemed to be University Green Fields, Vaddeswaram, Guntur Andhra Pradesh India 522502	India
Dr. R. Prema, Hindusthan College of Arts and Science	Hindusthan College of Arts and Science Avinashi Road Coimbatore Tamilnadu India 641 028	India
Dr. A.P. Jagadeesan, R.V.S. College of Engineering	R.V.S. College of Engineering RVS Nagar, Karur Road, N. Paraipatty Post Dindigul Tamilnadu India 624005	India
K Ranjit Kumar, Annamalai University	Annamalai University Annamalai Nagar Chidambaram Tamilnadu India 608002	India
K. Manikandan, Government Arts College - Autonomous	Government Arts College - Autonomous Karuppur Road, Kumbakonam Tamil Nadu India 612002	India
Dhruvang Suthar	8,vaibhav bungalows near visat petrol pump Gandhinagar highway, Sabarmati Ahmedabad Gujarat India 382424	India

## Applicant

Name	Address	Country
Pushpa Gothwal, Amity University Rajasthan	Amity University Rajasthan NH11C Kant Kalwar, RIICO Industrial Area, Jaipur Rajasthan India 303007	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering and Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Ankur Gupta, Vaish College of Engineering	Vaish College of Engineering Rohtak Station Diary Mohalla Rohtak Haryana India 124001	India
Dr. V. S. Bhagavan, Koneru Lakshmaiah Education Foundation Deemed to be University	Koneru Lakshmaiah Education Foundation, Deemed to be University Green Fields, Vaddeswaram, Guntur Andhra Pradesh India 522502	India
Dr. R. Prema, Hindusthan College of Arts and Science	Hindusthan College of Arts and Science Avinashi Road Coimbatore Tamilnadu India 641 028	India
Dr. A.P. Jagadeesan, R.V.S. College of Engineering	R.V.S. College of Engineering RVS Nagar, Karur Road, N. Paraipatty Post Dindigul Tamilnadu India 624005	India
K Ranjit Kumar, Annamalai University	Annamalai University Annamalai Nagar Chidambaram Tamilnadu India 608002	India
K. Manikandan, Government Arts College - Autonomous	Government Arts College - Autonomous Karuppur Road, Kumbakonam Tamil Nadu India 612002	India
Dhruvang Suthar	8,vaibhav bungalows near visat petrol pump Gandhinagar highway, Sabarmati Ahmedabad Gujarat India 382424	India

**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I. M.C.M.I.,  
**PRINCIPAL**

Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam Puducherry 607 402.



**Abstract:**

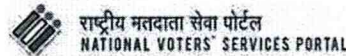
In this invention, a novel system is developed based on supervised machine learning which is able to classify network traffic whether it is benign or malicious. Best model based on success rate of detection hence feature selection method is integrated with supervised learning algorithm in this invention. Based on research Artificial Neural Network (ANN) is found to outperform than support vector machine (SVM) as the proposed invention involves machine learning along with wrapper feature selection in or network traffic. Intrusion detection is the first step in preventing security attack. Network traffic is classified by this system using both SVM algorithm and ANN algorithm utilizing NSL-KDD dataset. It is found that success rate of intrusion detection for the proposed Artificial Intelligence based Machine learning algorithm for wireless network is comparatively efficient than SVM algorithm.

**Complete Specification**

In the current era, usage of Internet is spreading which in turn increasing usage of online content in all fields thereby increasing the rate of cybercrime. First step involved in preventing security attack in cybercrime is intrusion detection. Researchers are attracted much towards security solutions such as Unified Threat Modeling (UTM), Firewall, Intrusion Prevention System (IPS) and Intrusion Detection System (IDS) in network security. Cyber attacks are detected by IDS systems from various sources and networks by collection of information and then analyzing it through security breaches.

IDS based on network, analyses data packets travelling over the network where the analysis is done by two methods namely anomaly based detection and signature based detection. Anomaly based intrusion detection undergoes several challenges as it has to deal with novel attacks whose prior knowledge is not known such that the anomaly can be identified. Hence it is necessary for the system to be intelligent such that it somehow segregates the data traffic into harmless traffic and malicious traffic sent by anomalous users. This feature is achieved by utilizing

[View Application Status](#)



Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)

Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)

Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)

Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

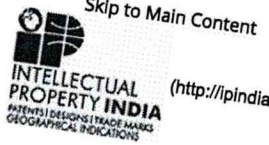
*Dr. E. VIJAYAKRISHNA RAO*  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.



Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)



(<http://ipindia.nic.in/index.htm>)



Skip to Main Content (<http://ipindia.nic>)

### Patent Search

Invention Title	A DEEP LEARNING APPROACH FOR COST EFFICIENT SMART SURVEILLANCE SYSTEM USING PREPROCESSING EDGE COMPUTING	
Publication Number	46/2020	
Publication Date	13/11/2020	
Publication Type	INA	
Application Number	202041048756	
Application Filing Date	08/11/2020	
Priority Number		
Priority Country		
Priority Date		
Field Of Invention	ELECTRONICS	
Classification (IPC)	H04N0007180000, H04L0029080000, G08B0013196000, H04L0012240000, H04N0021610000	
Inventor		
Name	Address	Country
Dr. Vijaykrishna Rapaka E, Rajiv Gandhi College Of Engineering and Technology	Professor, Department of Mechanical Engineering, Rajiv Gandhi College Of Engineering and Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry India 607403	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry India 607403	India
Dr. Veerraju Gampala, Koneru Lakshmaiah Education Foundation	Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram Guntur Andhrapradesh India 522502	India
Sivakumar R. D., Ayya Nadar Janaki Ammal College	Assistant Professor, Department of Computer Science, Ayya Nadar Janaki Ammal College Srivilliputtur Road Sivakasi West, Tamil Nadu India 626124	India
Dr. Kavitha S, Dayananda Sagar College of Arts, Science and Commerce	Dayananda Sagar College of Arts, Science and Commerce Shavige Malleshwara Hills, 1st Stage, Kumaraswamy Layout, Bengaluru, Karnataka India 560078	India
Mr. Mahendra Kumar Garanayak, Subash Institute of Technology	Assistant Professor, Department of Computer Science, Subash Institute of Technology Gyan Vihar, Barang, BPUT, Odisha India 751002	India
Gopabandhu Sahoo, Temple City Institute of Technology and Engineering	Assistant Professor, Department of Computer Science, Temple City Institute of Technology and Engineering Barunei Temple Rd, Jagannathpur, BPUT, Odisha India 751001	India
Dr. R. Krishnamoorthy, Sree Sastha Institute of Engineering and Technology	Sree Sastha Institute of Engineering and Technology Chennai to Bangalore highway Chennai Tamilnadu India 600123	India
Applicant		

*over*  
**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech. (Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.



Name	Address	Country
Dr. Vijayakrishna Rapaka E,Rajiv Gandhi College Of Engineering and Technology	Professor, Department of Mechanical Engineering, Rajiv Gandhi College Of Engineering and Technology Pody Cuddalore, East Coast Road, Kirumampakkam Puducherry India 607403	India
Dr. I. D. Soubache,Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pody Cuddalore, East Coast Road, Kirumampakkam Puducherry India 607403	India
Dr. Veerraju Gampala,Koneru Lakshmaiah Education Foundation	Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram Guntur Andhrapradesh India 522502	India
Sivakumar R. D.,Ayya Nadar Janaki Ammal College	Assistant Professor, Department of Computer Science, Ayya Nadar Janaki Ammal College Srivilliputtur Road Sivakasi West, Tamil Nadu India 626124	India
Dr.Kavitha S,Dayananda Sagar College of Arts,Science and Commerce	Dayananda Sagar College of Arts,Science and Commerce Shavige Malleshwara Hills, 1st Stage, Kumaraswamy Layout, Bengaluru, Karnataka India 560078	India
Mr. Mahendra Kumar Garanayak,Subash Institute of Technology	Assistant Professor, Department of Computer Science, Subash Institute of Technology Gyan Vihar, Barang, BPUT, Odisha India 751002	India
Gopabandhu Sahoo, Temple City Institute of Technology and Engineering	Assistant Professor, Department of Computer Science, Temple City Institute of Technology and Engineering Barunei Temple Rd, Jagannathpur, BPUT, Odisha India 751001	India
Dr. R.Krishnamoorthy,Sree Sastha Institute of Engineering and Technology	Sree Sastha Institute of Engineering and Technology Chennai to Bangalore highway Chennai Tamilnadu India 600123	India

**Abstract:**

In the current era, smart surveillance system is becoming popular as technology involved in it has become cheaper and easier to use. Traditional surveillance system continuous recording such that huge storage volume is required for storing the video footage. This in turn generates large amount of data thereby reducing the life c New surveillance devices are enabled access with Internet connection able to save video footage to the cloud which requires more bandwidth requirement with extra cloud. In this invention, we propose a smart surveillance system based on deep learning which is distributed and scalable utilizing edge computing for pre processing system along with cloud computing. In our work, bandwidth requirement and cost is significantly reduced as the video footage undergoes preprocessing prior to sen cloud with more video clarity.

**Complete Specification**

- Claims:1. A hierarchical architecture for smart surveillance system is proposed using Raspberry Pi as Edge server as it used docker and setup cluster of Raspber devices.
2. Processing layer involves four Raspberry pi Model B out of which one functions as load balancer with Face database in our recognition algorithm involves 365 1
  3. Surveillance system involves face recognition where Edge cloud is connected to remote cloud through the system consisting of IP cameras, cloud resources and devices.
  4. Deep learning model is able to perform face recognition with high accuracy of 98.9%.
  5. Object storage is done using S3, notification system is through SNS and DynamoDB is utilized as NoSQL database.
  6. Preprocessing of footage is done hence requires less bandwidth and operates at low cost.
- , Description: In this invention Amazon Web Services (AWS) is the choice of Cloud and Rekognition is used for Cloud processing. Cluster of Raspberry Pi are user Server where two Raspberry pi are utilized in preprocessing layer and three Raspberry pi 3 of Model B are utilized in processing layer.
- Testing of the system is done by using one IP camera but system is scalable hence no restriction on number of devices that can be connected.
  - IP camera of our choice is a generic IP camera with 1280x960p resolution and ONVIF 2.0 support where one of the nodes operates as load balancer.
  - Round robin load balancer is used with Python 2.7 as programming language with face detection & image manipulation done using OpenCV 3.2
  - Quality of dataset can be improved by using cascade classifiers based on Haar-like feature along with Google Photos where photos can be uploaded free of ch: the users from any location.

View Application Status



राष्ट्रीय मतदाता सेवा पोर्टल  
NATIONAL VOTERS' SERVICES PORTAL

Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

**Dr. E. VIJAYAKRISHNA RAPAKA**  
B.Tech. (Mech.), M.Tech. (Energy), Ph.D. (IIT Madras)  
M.S.T.E., F.I.I.P.E., M.C.S.I., M.C.I.I.,  
**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pody - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.

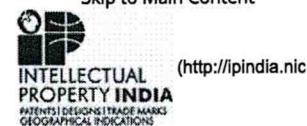


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/help-line-page.htm>)

Skip to Main Content



(<http://ipindia.nic.in/index.htm>)



## Patent Search

Invention Title	IOT BASED OPTIMIZED MANAGEMENT OF RENEWABLEENERGY MICROGRIDS
Publication Number	48/2020
Publication Date	27/11/2020
Publication Type	INA
Application Number	202041050451
Application Filing Date	19/11/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	ELECTRICAL
Classification (IPC)	H02J3/02

## Inventor

Name	Address	Country
Dr. Vijayakrishna Rapaka E	Professor, Department Of Mechanical Engineering, Rajiv Gandhi College Of Engineering And Technology, Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Dr. I. D. Soubache	Rajiv Gandhi College Of Engineering And Technology, Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry, Puducherry, India 607403	India
Abhijeet D. More	Pillai Hoc College Of Engineering And Technology, Hoc Colony Rd, Taluka Rasayani, Maharashtra, India 410207	India
Dr. M.N.Faruk	Navodaya Institute of Technology, Bijengera, Road Raichur, Karnataka, India 584103	India
Dr. R. Saravanan	Navodaya Institute of Technology, Bijengera, Road Raichur, Karnataka, India 584103	India
Sivakumar R. D.	Assistant Professor, Department Of Computer Science, Ayya Nadar Janaki Ammal College, Srivilliputtur Road, Sivakasi West, Tamil Nadu India 626124	India
Dr Vivek Uprit	Sage University, Kailod Kartal, Rau Bypass Indore, Madhya Pradesh, India 452020	India
Dr. Krishnamoorthy R	Sree Sastha Institute Of Engineering And Technology, Chennai To Bangalore Highway, Chennai, Tamil Nadu, India 600123	India
Dr.Y.N.Vijaya Kumar	Sri Venkateswara College of Engineering and Technology (Autonomous), RVS Nagar, Chittoor, Andhra Pradesh India 517127	India
Dr.S L Prathapa Reddy	Associate Professor, Department of Electronics and Communication Engineering, KSRM College of Engineering, Yerramasupalli, C.K. Dinne, YSR Kadapa, Andhra Pradesh, India 516003	India

## Applicant

Name	Address	Country
Dr. Vijayakrishna Rapaka E	Professor, Department Of Mechanical Engineering, Rajiv Gandhi College Of Engineering And Technology, Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Dr. I. D. Soubache	Rajiv Gandhi College Of Engineering And Technology, Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Abhijeet D. More	Pillai Hoc College Of Engineering And Technology, Hoc Colony Rd, Taluka Rasayani, Maharashtra, India 410207	India
Dr. M.N.Faruk	Navodaya Institute of Technology, Bijengera, Road Raichur, Karnataka, India 584103	India
Dr. R. Saravanan	Navodaya Institute of Technology, Bijengera, Road Raichur, Karnataka, India 584103	India
Sivakumar R. D.	Assistant Professor, Department Of Computer Science, Ayya Nadar Janaki Ammal College, Srivilliputtur Road, Sivakasi West, Tamil Nadu India 626124	India
Dr Vivek Uprit	Sage University, Kailod Kartal, Rau Bypass Indore, Madhya Pradesh, India 452020	India
Dr. Krishnamoorthy R	Sree Sastha Institute Of Engineering And Technology, Chennai To Bangalore Highway, Chennai, Tamil Nadu India 600123	India
Dr.Y.N.Vijaya Kumar	Sri Venkateswara College of Engineering and Technology (Autonomous), RVS Nagar, Chittoor, Andhra Pradesh, India 517127	India
Dr.S L Prathapa Reddy	Associate Professor, Department of Electronics and Communication Engineering, KSRM College of Engineering, Yerramasupalli, C.K. Dinne, YSR Kadapa, Andhra Pradesh, India 516003	India

**Dr. E. VIJAYAKRISHNA RAPAKA**

B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,

**PRINCIPAL**

Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402



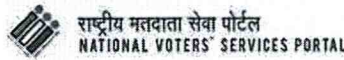
**Abstract:**

Renewable energy has distributed generation as significant challenge where energy generation and consumption are generally located in nearness. A solution is provided by microgrid for this challenge as it avails integration of distributed generation reliably which includes storage of energy and controlled loads. Microgrid is a electricity grid system that operates in bidirectional mode allowing electricity distribution from suppliers to consumers through digital technology. Hence Microgrids boost integration of renewable energy sources thereby optimizing energy management through Internet of Things (IoT). This invention designs and develops wireless sensor network system integration with webbased platform for optimal management of microgrid through continuous monitoring. High capability of data processing with high storage capacity by integrated IoT platform with LoRaWAN technology for deploying and implementing low power wireless remote monitoring network for optimized management of

**Complete Specification**

- Claims:1. This invention provides secure, scalable energy management system for microgrids based on Internet of Things.
2. LoRaWAN technology ensures minimized data traffic with reduced collisions in transmissions based on payload size.
  3. Independent modules can be replicated for similar systems of microgrids at reduced cost.
  4. Information system based on IoT is able to obtain heterogeneous data from several sources and able to conduct advanced data analysis.
  5. Microgrids producing renewable energy is managed in an optimal way based on wireless sensor network operated based on IoT.
  6. Microgrids can be utilized in residential campus as well as in commercial campuses in an optimal way using this invention.
- , Description:• In this invention, the IoT based energy management system involves LoRaWAN sensor network which is evaluated in terms of packet losses and L signals namely LSNR and RSSI with the quality indicators as emitters.
- The packet loss ratio of the microgrid management system is obtained as 0.9% for a specific period where LSNR & RSSI along with signal quality show higher value comparison to the LoRa standards.
  - This feature makes the microgrid system feasible for applying both for residential purpose as well as commercial purpose with low packet losses.
  - Issues of local interferences are eliminated by maintaining a shorter distance between gateway and the emitters of the system such that packet losses are sparse in time and occur as small sporadic bursts.
  - The proposed system is able to receive, process and store data from the deployment of wireless sensor network and microgrid SCADA as well as from other external available information system such as weather database.


[View Application Status](#)



Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
 Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
 Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
 Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

  
**Dr. E. VIJAYAKRISHNA RAO**  
 B.Tech. (Mech.), M.Tech. (Energy), Ph.D. (IIT Madras)  
 M.L.S.T.E., F.I.I.P.E., M.C.S.I., M.C.I.I.V.  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pandy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.

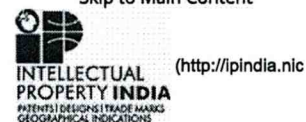


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

Skip to Main Content



(<http://ipindia.nic.in/index.htm>)



## Patent Search

Invention Title	ARTIFICIAL INTELLIGENCE BASED SMART SURVEILLANCE SYSTEM FOR REAL TIME PEDESTRIAN CROSSING
Publication Number	50/2020
Publication Date	11/12/2020
Publication Type	INA
Application Number	202041053074
Application Filing Date	05/12/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMMUNICATION
Classification (IPC)	H04N 7/18

## Inventor

Name	Address	Country
Dr. Vijayakrishna Rapaka E	Professor, Department of Mechanical Engineering, Rajiv Gandhi College Of Engineering and Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Dr. I. D. Soubache	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Dr. M.N.Faruk	Navodaya Institute of Technology Bijengera, Road Raichur Karnataka India 584103	India
Dr. R. Saravanan	Navodaya Institute of Technology Bijengera, Road Raichur Karnataka India 584103	India
Dr. Seema Kharb	National Institute of Technology Delhi A-7, Institutional Area, near Satyawadi Raja Harish Chandra Hospital, New Delhi Delhi India 110040	India
Jayakumar N	The oxford College of Engineering 10th Milestone, Hosur Rd Bommanahalli, Bengaluru Karnataka India 560068	India
Dr.B.Devi vighneshwari	The oxford College of Engineering 10th Milestone, Hosur Rd Bommanahalli, Bengaluru Karnataka India 560068	India
Nisha C Rani	The oxford College of Engineering 10th Milestone, Hosur Rd Bommanahalli, Bengaluru Karnataka India 560068	India
Dr.Jai Kumar Maherchandani	College of Technology and Engineering, Maharana Pratap University of Agriculture and Technology University Rd, Ganapati Nagar Udaipur Rajasthan India 313001	India
Dr.T.Sunilkumar Reddy	Sri Venkatesa Perumal College Of Engineering And Technology(Autonomous), R V S Nagar,Chinnaraj Kuppam, K N Road Puttur Andhra Pradesh, India 517583	India

## Applicant

Name	Address	Country
Dr. Vijayakrishna Rapaka E	Professor, Department of Mechanical Engineering, Rajiv Gandhi College Of Engineering and Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Dr. I. D. Soubache	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Dr. M.N.Faruk	Navodaya Institute of Technology Bijengera, Road Raichur Karnataka India 584103	India
Dr. R. Saravanan	Navodaya Institute of Technology Bijengera, Road Raichur Karnataka India 584103	India
Dr. Seema Kharb	National Institute of Technology Delhi A-7, Institutional Area, near Satyawadi Raja Harish Chandra Hospital, New Delhi Delhi India 110040	India
Jayakumar N	The oxford College of Engineering 10th Milestone, Hosur Rd Bommanahalli, Bengaluru Karnataka India 560068	India
Dr.B.Devi vighneshwari	The oxford College of Engineering 10th Milestone, Hosur Rd Bommanahalli, Bengaluru Karnataka India 560068	India
Nisha C Rani	The oxford College of Engineering 10th Milestone, Hosur Rd Bommanahalli, Bengaluru Karnataka India 560068	India
Dr.Jai Kumar Maherchandani	College of Technology and Engineering, Maharana Pratap University of Agriculture and Technology University Rd, Ganapati Nagar Udaipur Rajasthan India 313001	India
Dr.T.Sunilkumar Reddy	Sri Venkatesa Perumal College Of Engineering And Technology(Autonomous), R V S Nagar,Chinnaraj Kuppam, K N Road Puttur Andhra Pradesh, India 517583	India

**DR. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,

PRINCIPAL

Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402



**Abstract:**

Artificial Intelligence has gained strong potential in various fields of application as it provides safety and security in a significant way. Intelligent Transportation System are data driven are efficient in the services of the emerging technology Internet of Vehicles (IoV). This invention deals with implementing deep learning methods in re scenario for increased security and safety. This system of Artificial Intelligence based smart surveillance system for Pedestrian crossing combines image detection and classification for detection of various objects such as vehicles, pedestrians, barriers, traffic lights, vehicle trajectory tracking etc. The proposed system uses high resolution cameras for capturing images of entire pedestrian crossing area positioned suitably. Deep neural network along with GPU accelerated image processing techniques are used for detecting autonomously any dangerous or risky situation at pedestrian crossing in real time system.

**Complete Specification**

Claims:1. Complex intelligent system is proposed for monitoring pedestrian crossing for detection any risky or dangerous events using this autonomous system  
2. Global security is provided by this system as the security and communication layers are able to provide privacy and communication security to the data collected by this system.

3. Alerts are triggered by this system once after detecting risky situations.
4. Convolutional deep learning techniques are utilized for detection of such risky situations.
5. Unique dataset is created by the system containing update of pedestrian crossings and barriers available enhancing object detection method.
6. Risky events are detected which are evaluated and notified to relevant authenticated officials.

, Description:• In this invention, transfer learning technique is employed for training the models of Deep Convolutional Neural Network for object detection.

- Pre training model on MS dataset is used for training the SSD models.
- Database of the image is intended for proceeding with computer vision.
- The proposed system of pedestrian crossing monitoring involves two main algorithms evaluating the state of the area.
- The first algorithm involves learned model of the neural network which continuously checks the current state of the camera module.
- This algorithm is able to define the selected area is in monitoring mode.
- The second algorithm is Gaussian Mixture based algorithm which is used to evaluate the monitoring area for occurrence of objects.
- Background subtraction technique is used by this method which utilizes mentioned mixture of Gaussian for accurately evaluating the objects.

[View Application Status](#)



राष्ट्रीय मतदाता सेवा पोर्टल  
NATIONAL VOTERS SERVICES PORTAL

Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)

Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)

Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)

Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

*one*  
**Dr. E. VIJAYAKRISHNA RAPANNA**  
B.Tech. (Mech.), M.Tech. (Energy), Ph.D. (IT Madras)  
M.I.S.T.E., F.I.P.E., M.C.Si, M.C.I.T.  
**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.

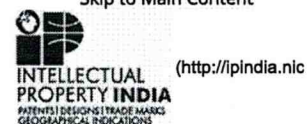


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<shttp://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

Skip to Main Content



(<http://ipindia.nic.in/index.htm>)



## Patent Search

Invention Title	IOT BASED REAL TIME HEALTH CARE SYSTEM ENABLED BY WEARABLE SENSOR NETWORK
Publication Number	05/2021
Publication Date	29/01/2021
Publication Type	INA
Application Number	202111002807
Application Filing Date	20/01/2021
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMMUNICATION
Classification (IPC)	G16H 40/63 A61B 5/00 G08B 21/04

## Inventor

Name	Address	Country
Dr. Seema Kharb	Assistant Professor, Department of Computer Science & Engineering, National Institute of Technology Delhi A-7, Institutional Area, near Satyawadi Raja Harish Chandra Hospital, New Delhi Delhi India - 110040	India
Dr Anusuya saravanan, Indra Ganesan College of Engineering	Registrar, Indra Ganesan College of Engineering Trichy-Madurai Highway Trichy Tamil Nadu India 620012	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Chandran M, The Oxford College of Engineering	Department of Mathematics, The Oxford College of Engineering 10th Milestone, Hosur Rd, Bommanahalli, Bengaluru, Karnataka India 560068	India
Dr.T. Bhuvanendhiran, Dr.T.Thimmaiah Institute of Technology	Associate professor, Dept. of ECE Dr.T.Thimmaiah Institute of Technology Oorgaum Post, K.G.F Karnataka India 563120	India
Ruchi Yadav, Sharda University	Research Scholar, Sharda University Knowledge Park III, Greater Noida, Uttar Pradesh India 201310	India
Maniza Hijab, Muffakham Jah College of Engineering and Technology	Associate Professor, Department of Computer Science and Engineering, Muffakham Jah College of Engineering and Technology, Mount Pleasant, Rd # 3 Banjara Hills Hyderabad Telangana India 500034	India
Dr. Mohammad Pasha, Muffakham Jah College of Engineering and Technology	Assistant Professor, Information Technology Department, Muffakham Jah College of Engineering and Technology, Mount Pleasant, Rd # 3 Banjara Hills Hyderabad Telangana India 500034	India
Dr. Mohd Umar Farooq, Muffakham Jah College of Engineering and Technology	Associate Professor, Department of Computer Science and Engineering, Muffakham Jah College of Engineering and Technology, Mount Pleasant, Rd # 3 Banjara Hills Hyderabad Telangana India 500034	India
Mr. Jeevan Madhavrao Kondre, Yogeshwari Mahavidyalaya Ambajogai	Assistant Professor, Yogeshwari Mahavidyalaya Ambajogai, Affiliated to Dr. B.A.M. University, Ambajogai, Maharashtra India 431517	India

## Applicant

*mer*  
**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.



Name	Address	Country
Dr. Seema Kharb	Assistant Professor, Department of Computer Science & Engineering, National Institute of Technology Delhi A-7, Institutional Area, near Satyawadi Raja Harish Chandra Hospital, New Delhi India - 110040	India
Dr Anusuya saravanan, Indra Ganesan College of Engineering	Registrar, Indra Ganesan College of Engineering Trichy-Madurai Highway Trichy Tamil Nadu India 620012	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Chandran M, The Oxford College of Engineering	Department of Mathematics, The Oxford College of Engineering 10th Milestone, Hosur Rd, Bommanahalli, Bengaluru, Karnataka India 560068	India
Dr.T. Bhuvanendhiran, Dr.T.Thimmaiah Institute of Technology	Associate professor, Dept. of ECE Dr.T.Thimmaiah Institute of Technology Oorgaum Post, K.G.F Karnataka India 563120	India
Ruchi Yadav, Sharda University	Research Scholar, Sharda University Knowledge Park III, Greater Noida, Uttar Pradesh India 201310	India
Maniza Hijab, Muffakham Jah College of Engineering and Technology	Associate Professor, Department of Computer Science and Engineering, Muffakham Jah College of Engineering and Technology, Mount Pleasant, Rd # 3 Banjara Hills Hyderabad Telangana India 500034	India
Dr. Mohammad Pasha, Muffakham Jah College of Engineering and Technology	Assistant Professor, Information Technology Department, Muffakham Jah College of Engineering and Technology, Mount Pleasant, Rd # 3 Banjara Hills Hyderabad Telangana India 500034	India
Dr. Mohd Umar Farooq, Muffakham Jah College of Engineering and Technology	Associate Professor, Department of Computer Science and Engineering, Muffakham Jah College of Engineering and Technology, Mount Pleasant, Rd # 3 Banjara Hills Hyderabad Telangana India 500034	India
Mr. Jeevan Madhavrao Kondre, Yogeshwari Mahavidyalaya Ambajogai	Assistant Professor, Yogeshwari Mahavidyalaya Ambajogai, Affiliated to Dr. B.A.M. University, Ambajogai, Maharashtra India 431517	India

**Abstract:**

Rapid growth of population along with their aging has led to major issue as health care of elders throughout the world. Technology plays significant role in improving of care service along with decreased manpower burden at low cost. Several entrepreneurs from health care industry have started seeking the assistance of technology the issue of elderly care. This invention proposes IoT (Internet of Things) based health care system using wearable devices for generating notification of any abnormal Physiological parameters are recorded by wearable devices such as body tag, smart clothes and health watch which collect raw data which is then updated to the dat generating the personal report of elder's health analysis. If any abnormal value above the threshold, then the care notification system generates alerts and sent to ca the elders. Health management of elders with high blood sugar and high pressure becomes feasible by this invention as the care takers are able to get regular notific the condition of the elders at low cost with higher accuracy compared to conventional systems.

Complete Specification

Rapid development of medical technology has paved way for health monitoring of elders. During this pandemic period of declining population priority issue all over the world is elderly caring. Now a day's most of them opt for abroad jobs and not in a situation to live the elders hence they live alone or they are sent to elder care institutions for better care of them and their health but still near ones are not aware of the regular happenings or health status of their elders. Technology provides a significant solution by providing nursing assistance using wearable devices without any human intervention. Healthcare cost has reduced by the usage of wearable devices such as AppleWatch, Garmin, MI Band and smart clothes where Gramin is utilized for tracing steps count of the user along with their heart beat; smart clothes are able to detect physiological parameters, sleeping efficiency, user's attitude and their moving. These wearable devices are able to monitor the physiological parameters of the elders continuously in order to manage their health and transfer the data to their medical professionals and care takers based on which personalized medical

[View Application Status](#)



**Department of Industrial Policy and Promotion**  
Government of India

**Dr. E. VIJAYAKRISHNA RAPAKA**  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D (IT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S. etc.  
**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road  
Kirumampakkam, Puducherry 607 40

Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

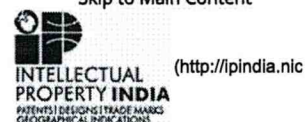


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

Skip to Main Content



(<http://ipindia.nic.in/index.htm>)



## Patent Search

Invention Title	DESIGN AND DEVELOPMENT OF SCADA SYSTEM FOR AUTOMATED SOLAR POWERED PUMP
Publication Number	11/2021
Publication Date	12/03/2021
Publication Type	INA
Application Number	202121009197
Application Filing Date	05/03/2021
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMMUNICATION
Classification (IPC)	H04L0029080000, G01J0001420000, G06Q0050100000, F24S0050000000, H04Q0009140000

## Inventor

Name	Address	Country
Praful Nandankar, Government Engineering College, Nagpur	Assistant Professor, Government Engineering College, Nagpur Nagpur, Maharashtra India 441108	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pandy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Aashutosh Kharb, Dr Akhilesh Das Gupta Institute of Technology and Management	Dr Akhilesh Das Gupta Institute of Technology and Management, Shastri Park Delhi Delhi India 110053	India
Dr. Surender kumar, ADGITM	ADGITM, FC-26 Shastri park New Delhi New Delhi India 110053	India
P.Prasant, CT University	#305 CT University CT University Ferozpr Road near Chiwnikimann, Ferozpr Road Ludhiana Punjab India 142024	India
Dr.T. Bhuvanendhiran, Dr.T.Thimmaiah Institute of Technology	Associate professor, Dept. of ECE, Dr.T.Thimmaiah Institute of Technology Oorgaum Post, K.G.F Karnataka India 563120	India
Dr.Shanti Verma, LJ Institute of Computer Applications	LJ Institute of computer applications LJ university Ahmedabad Gujarat India 382210	India
Dr. Mukesh K Kumawat, SVIT	Associate Professor, Department of Electrical Engineering, Pravara, SVIT Nashik Pune Highway Chincholi, Nashik Maharashtra India 422102	India
Dr. R. Krishnamoorthy, Sree Sastha Institute of Engineering and Technology	Associate Professor, Sree Sastha Institute of Engineering and Technology Chembarambakkam Chennai Tamil Nadu India 600123	India
Dr.Dilkush, Rajiv Gandhi university of knowledge Technologies	Assistant Professor, Rajiv Gandhi university of knowledge Technologies- RGUKT Nuzvid campus Nuzividu, Andhra Pradesh India 521202	India

## Applicant

*am*  
**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pandy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402



Name	Address	Country
Praful Nandankar, Government Engineering College, Nagpur	Assistant Professor, Government Engineering College, Nagpur Nagpur, Maharashtra India 441108	India
Dr. I. D. Soubache, Rajiv Gandhi College Of Engineering And Technology	Rajiv Gandhi College Of Engineering And Technology Pondy Cuddalore, East Coast Road, Kirumampakkam Puducherry Puducherry India 607403	India
Aashutosh Kharb, Dr Akhilesh Das Gupta Institute of Technology and Management	Dr Akhilesh Das Gupta Institute of Technology and Management, Shastri Park Delhi Delhi India 110053	India
Dr. Surender kumar, ADGITM	ADGITM, FC-26 Shastri park New Delhi New Delhi India 110053	India
P.Prasant, CT University	#305 CT University CT University Ferozpr Road near Chiwnikimann, Ferozpr Road Ludhiana Punjab India 142024	India
Dr.T. Bhuvanendhiran, Dr.T.Thimmaiah Institute of Technology	Associate professor, Dept. of ECE, Dr.T.Thimmaiah Institute of Technology Oorgaum Post, K.G.F Karnataka India 563120	India
Dr.Shanti Verma, LJ Institute of Computer Applications	LJ Institute of computer applications LJ university Ahmedabad Gujarat India 382210	India
Dr. Mukesh K Kumawat, SVIT	Associate Professor, Department of Electrical Engineering, Pravara, SVIT Nashik Pune Highway Chincholi, Nashik Maharashtra India 422102	India
Dr. R. Krishnamoorthy, Sree Sastha Institute of Engineering and Technology	Associate Professor, Sree Sastha Institute of Engineering and Technology Chembarambakkam Chennai Tamil Nadu India 600123	India
Dr.Dilkush, Rajiv Gandhi university of knowledge Technologies	Assistant Professor, Rajiv Gandhi university of knowledge Technologies- RGUKT Nuzvid campus Nuzividu, Andhra Pradesh India 521202	India

**Abstract:**

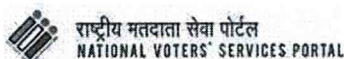
In the current era, the technology of Internet of Things plays a major role is providing services related to remote access. We focus on developing a low cost SCADA (Su Control and Data Acquisition) system for controlling and monitoring of a solar water pump from remote location. Renewable solar power enhances the efficiency of t cultivation process as sunlight is available abundantly in India compensating for the issues of power shortage. The system involves components namely Arduino Nano RED program for controlling purpose, digital camera, sensors such as voltage sensor, current sensor and solar irradiance sensor for measuring the parameters relate system. The user is able to get connected with the system through web server via IP address for monitoring and controlling the system. This system is a low cost syst components utilized are of low cost. Web server avails the measured data on the website for remote accessing of data from any location based on NGINX web server and User credentials are required to access data on the website. User friendly GUI is provided in the front for easy access.

**Complete Specification**

- Claims:1. This invention proposes a low cost SCADA system for controlling and monitoring a solar water pump system.
- The system involves Arduino Nano, GUI interface, voltage and current sensors, digital camera, sensors for detecting environmental parameters.
  - A graphical user interface is provided at the front end of our proposed SCADA system termed as dashboard.
  - Wireless communication of the sensed data is provided by 4G network and WiFi network.
  - Web server avails the measured data on the website for remote accessing of data from any location based on NGINX web server application and User credenti required to access data on the website.
  - Communication to Arduino Nano is possible by Node RED program using Firmata as its simple to communicate with the server.

FORM 2  
 THE PATENTS ACT, 1970  
 (39 of 1970)  
 AND  
 THE PATENTS RULES, 2003  
 COMPLETE SPECIFICATION  
 (See Section 10; rule 13)  
 TITLE OF THE INVENTION

[View Application Status](#)



Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
 Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
 Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
 Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.A.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology,  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 407

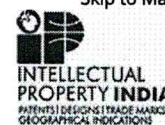


Home (<http://ipindia.nic.in/index.htm>) About Us (<http://ipindia.nic.in/about-us.htm>) Who's Who (<http://ipindia.nic.in/whos-who-page.htm>)  
 Policy & Programs (<http://ipindia.nic.in/policy-pages.htm>) Achievements (<http://ipindia.nic.in/achievements-page.htm>)  
 RTI (<http://ipindia.nic.in/right-to-information.htm>) Feedback (<https://ipindiaonline.gov.in/feedback>) Sitemap (<http://ipindia.nic.in/itemap.htm>)  
 Contact Us (<http://ipindia.nic.in/contact-us.htm>) Help Line (<http://ipindia.nic.in/helpline-page.htm>)

Skip to Main Content



(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic>)

## Patent Search

Invention Title	INTEGRATION OF IOT AND MACHINE LEARNING APPROACHES FOR PREDICTING SOIL MOISTURE AND WEATHER WITH CROP PREDICTIC IMPROVE AGRICULTURE YIELDS
Publication Number	40/2023
Publication Date	06/10/2023
Publication Type	INA
Application Number	202341063944
Application Filing Date	23/09/2023
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMPUTER SCIENCE
Classification (IPC)	G06N0020000000, G06N0003080000, G06Q0050020000, A01G0025160000, G16H0020400000

## Inventor

Name	Address	Country
Yadati Vijaya Suresh	Associate Professor, Dept. of EEE, Rajeev Gandhi Memorial College of Engineering and Technology, Nandyal-518501, Andhra Pradesh, India.	India
Dr.B.Hemavathi	Assistant Professor in Zoology on Contract, Department of Biosciences and Sericulture, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, Pin:517502	India
Periasami Nagappan	Assistant Professor (Agricultural Economics), Department of Agricultural Economics, College of Agricultural Sciences, Vendhar Nagar, Baburayanpettai, Elapakkam, Acharapakkam, Chengalpattu-603201, Tamil Nadu, India.	India
Dr A Suvarna Latha	Assistant Professor on Contract, Botany Faculty, Department of Biosciences and Sericulture, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, India.	India
Dr. M . Swetha priya	Dept of Biosciences and Sericulture, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, India.	India
Dr. Rajesh B. Survase	Assistant Professor, Department of Geography, E. S. Divekar College Varvand, Pune 412215, Maharashtra, India.	India
Mr.Bhausahab Bhaskar Vikhe	Assistant Professor, Department of Computer Engineering, Pravara Rural Engineering College, Loni.413736, Ahmednagar, Maharashtra, India.	India
Dr. Droupti Yadav	Assistant Professor and Coordinator, Environmental Science and Technology, SLSBT, CSJM University Kanpur, Uttar Pradesh, India 208024	India
Dr Sunil Kumar K	R L Jalappa Institute of Technology Doddaballapur, Bangalore rural, Karnataka, India.	India
K Venkataramana	Associate Professor/CSE, Sri Vasavi Engineering College, Tadepalligudem, 534101, Srikalahasti, Tirupati, Andhra Pradesh, India.	India
E Nagarjuna	Associate Professor/ CSE, Sri Vasavi Engineering College, Tadepalligudem, 534101, Nellore, Andhra Pradesh, India.	India
Dr.I.D.Soubache	Associate Professor, Department of BME Rajiv Gandhi College of Engineering and Technology, Pondicherry Cuddalore ECR Main Road Pondicherry-607404 Main	India

## Applicant

  
**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402



Name	Address	Country
Yadati Vijaya Suresh	Associate Professor, Dept. of EEE, Rajeev Gandhi Memorial College of Engineering and Technology, Nandyal-518501, Andhra Pradesh, India.	India
Dr.B.Hemavathi	Assistant Professor in Zoology on Contract, Department of Biosciences and Sericulture, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, Pin:517502	India
Periasami Nagappan	Assistant Professor (Agricultural Economics), Department of Agricultural Economics, College of Agricultural Sciences, Vendhar Nagar, Baburayanpettal, Elapakkam, Acharapakkam, Chengalpattu-603201, Tamil Nadu, India.	India
Dr A Suvarna Latha	Assistant Professor on Contract, Botany Faculty, Department of Biosciences and Sericulture, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, India.	India
Dr. M . Swetha priya	Dept of Biosciences and Sericulture, Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh, India.	India
Dr. Rajesh B. Survase	Assistant Professor, Department of Geography, E. S. Divekar College Varvand, Pune 412215, Maharashtra, India.	India
Mr.Bhauseheb Bhaskar Vikhe	Assistant Professor, Department of Computer Engineering, Pravara Rural Engineering College, Loni.413736, Ahmednagar, Maharashtra, India.	India
Dr. Droupti Yadav	Assistant Professor and Coordinator, Environmental Science and Technology, SLSBT, CSJM University Kanpur, Uttar Pradesh, India 208024	India
Dr Sunil Kumar K	R L Jalappa Institute of Technology Doddaballapur, Bangalore rural, Karnataka, India.	India
K Venkataramana	Associate Professor/CSE, Sri Vasavi Engineering College, Tadepalligudem, 534101, Srikalahasti, Tirupati, Andhra Pradesh, India.	India
E Nagarjuna	Associate Professor/ CSE, Sri Vasavi Engineering College, Tadepalligudem, 534101, Nellore, Andhra Pradesh, India.	India
Dr.I.D.Soubache	Associate Professor, Department of BME Rajiv Gandhi College of Engineering and Technology, Pondicherry Cuddalore ECR Main Road Pondicherry-607404 Main	India

**Abstract:**

INTEGRATION OF IOT AND MACHINE LEARNING APPROACHES FOR PREDICTING SOIL MOISTURE AND WEATHER WITH CROP PREDICTION TO IMPROVE AGRICULTURE method for the development of the procedure includes creating a soil moisture layer equilibrium model, modifying the model's structure using remote sensing techr obtaining model parameters using remote sensing technology, and creating a database of watershed hydrological spatial information. By using the dynamic data dri application system as a technological paradigm, various updated actually measured meteorological data as a foundation, and actually measured initial soil moisture surface soil moisture state, growing state of crops, and the like as base, simulated forecast on soil moisture is made, according to the method. Additionally, by giving machine learning model weather forecast data for a location and time and giving the second machine learning model historical radar images for the location and an first machine learning model, we may generate enhanced predictive radar images. a data receiving device that receives information about the farming environment, cultivation data, and public data. FIG.1

Complete Specification

Description: INTEGRATION OF IOT AND MACHINE LEARNING APPROACHES FOR PREDICTING SOIL MOISTURE AND WEATHER WITH CROP PREDICTION TO IMPROVE AGRICULTURE YIELDS

Technical Field

[0001] The embodiments herein generally relate to a method for an integration of IOT and machine learning approaches for predicting soil moisture and weather crop prediction to improve agriculture yields.

Description of the Related Art

[0002] In terms of agricultural production, environment construction, and conservation through evapotranspiration, the water and motion content of the soil hav significant impact on the conversion process of the inner soil material. The soil water is addressed as a special subject under investigation and discussion in the glo moisture plan (Global Soil Wetness Project, GSWP), and has since emerged as a key area of interest for global change research. The process that is measured to sen time automatic collecting has dried during the course of the longer history of producing the soil moisture test method. Nowcasting often refers to a thorough expla of the weather that is predicted for the upcoming 0-6 hours. Due to these deteriorations, it is best for drivers to adjust their behavior to the current state of the roa certain situations, they should completely avoid regions that are judged to be excessively dangerous, such as those that have "black ice. Agriculture is a good exam primary sector that allowed people to congregate and create civilizations. While some weather factors, like precipitation, may obviously hinder harvesting efforts, o more benign daily weather factors also play important but understated roles.

[View Application Status](#)



**Department of Industrial Policy and Promotion**  
Government of India

Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
Help (<http://ipindia.gov.in/help.htm>)  
Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

**Dr. E. VIJAYAKRISHNA RABALA** Page last updated on: 26/06/2019  
B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
M.I.S.T.E., F.I.I.P.E., M.C.S.I.M.C.I.I.,  
**PRINCIPAL**  
Rajiv Gandhi College of Engineering & Technology  
Pondy - Cuddalore Main Road,  
Kirumampakkam, Puducherry - 607 402.





(<http://ipindia.nic.in/index.htm>)

Skip to Main Content



### Patent Search

ANALYSIS OF THE NEW PARADIGM OF COLLEGE EDUCATION THROUGH ANALOGY BASED ARTIFICIAL INTELLIGENCE PEDAGOGY		
Invention Title	ANALYSIS OF THE NEW PARADIGM OF COLLEGE EDUCATION THROUGH ANALOGY BASED ARTIFICIAL INTELLIGENCE PEDAGOGY	
Publication Number	10/2024	
Publication Date	08/03/2024	
Publication Type	INA	
Application Number	202441009098	
Application Filing Date	10/02/2024	
Priority Number		
Priority Country		
Priority Date		
Field Of Invention	COMPUTER SCIENCE	
Classification (IPC)	G06Q0050200000, G06K0009620000, A61B0005145000, G06T0009000000, G06T0007246000	
Inventor		
Name	Address	Country
Dr. Kamalakkannan Adhisekar	Assistant professor, Department of Corporate Secretaryship and Accounting & Finance, Faculty of Science and Humanities, SRM Institute of Science and Technology, Pin Code-603203.	India
Dr. P. Ravisankar	Associate Professor, Department of Commerce (General), Saveetha College of Arts and Sciences, Chennai 605102.	India
Swetha.S	Student, Department of Computer Science and Engineering ,Sri Shakthi Institute of Engineering and Technology, Coimbatore, 641062	India
Dr Kamini Sharma	Ex. Associate Professor , Department of Education, D Y Patil University, Nerul, New Mumbai - 400706	India
Reena Rai	Research Scholar, School Of Education And Skill Development, Dr. B. R. Ambedkar University Of Social Sciences, Mhow, Indore, 453441	India
Dr Rahul Mangilal Bhandari	At Loni Tal Rahata District -Ahmadnagar	India
Dr.I.D.Soubache	Associate Professor / BME, Rajiv Gandhi College of Engineering and Technology, Pondicherry 607403.	India
Ipsita Nayak	Assistant Professor of English, KIIT University, Bhubaneswar, 751024	India
Dr.S. Nithyadevi	Assistant Professor, Department of Commerce, Prince Shri Venkateshwara Arts and Science College, Gowrivakkam, Chennai 600 073	India
Dr. Manjushri Janardan Yadav	Assistant Professor, Department of Management, International Institute of Business Studies, Muthugadahalli, Bengaluru, Karnataka	India
Dr. Rani Sarode	Associate professor, Department of English and Languages, Nashik, Mahiravani,422213	India
Anthony Savio Herminio da Piedade Fernandes	Founder Owner, Trading Equations, 54/C, Xell, Bastora, Bardez - Goa (403507)	India
Applicant		India

**Dr. E. VIJAYAKRISHNA RAPAKA**

B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.,

**PRINCIPAL**

Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402



Name	Address	Country
Dr. Kamalakkannan Adhisekar	Assistant professor, Department of Corporate Secretaryship and Accounting & Finance, Faculty of Science and Humanities, SRM Institute of Science and Technology, Pin Code-603203.	India
Dr. P. Ravisankar	Associate Professor, Department of Commerce (General), Saveetha College of Arts and Sciences, Chennai 605102.	India
Swetha.S	Student, Department of Computer Science and Engineering ,Sri Shakthi Institute of Engineering and Technology, Coimbatore, 641062	India
Dr Kamini Sharma	Ex. Associate Professor , Department of Education, D Y Patil University, Nerul, New Mumbai - 400706	India
Reena Rai	Research Scholar, School Of Education And Skill Development, Dr. B. R. Ambedkar University Of Social Sciences, Mhow, Indore, 453441	India
Dr Rahul Mangilal Bhandari	At Loni Tal Rahata District -Ahmadnagar	India
Dr.I.D.Soubache	Associate Professor / BME, Rajiv Gandhi College of Engineering and Technology, Pondicherry 607403.	India
Ipsita Nayak	Assistant Professor of English, KIIT University, Bhubaneswar, 751024	India
Dr.S. Nithyadevi	Assistant Professor, Department of Commerce, Prince Shri Venkateshwara Arts and Science College, Gowrivakkam, Chennai 600 073	India
Dr. Manjushri Janardan Yadav	Assistant Professor, Department of Management, International Institute of Business Studies, Muthugadahalli, Bengaluru, Karnataka	India
Dr. Rani Sarode	Associate professor, Department of English and Languages, Nashik, Mahiravani,422213	India
Anthony Savio Herminio da Piedade Fernandes	Founder Owner, Trading Equations, 54/C, Xell, Bastora, Bardez - Goa (403507)	India

**Abstract:**

Analysis of the new paradigm of college education through analogy based artificial intelligence pedagogy is the proposed invention. The proposed invention focuses understanding the functions of new ideas of college education. The invention focuses on analyzing the parameters of New Paradigm for College Education using algc Artificial Intelligence.

**Complete Specification**

Description:[0001] Background description includes information that may be useful in understanding the present invention. It is not an admission that any of the information provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[0002] Artificial intelligence (AI) is a field of study that develops and studies intelligent machines. It is the ability of a computer or robot to perform tasks that are commonly associated with human intellectual processes, such as reasoning. The goals of AI include computer-enhanced learning, reasoning, and perception. AI is used today across different industries from finance to healthcare.

[0003] A number of different types of college education analysis systems that are known in the prior art. For example, the following patents are provided for their supportive teachings and are all incorporated by reference.

[0004] US20060166174A1: System and methods for predicting and dynamically adapting the most appropriate content and teaching strategies that aid individual learning. System and methods are based on a cognitive model that integrates new information with what the student already knows. A program of study is predicted unique cognitive needs of the individual student correlated with aggregated student data history using an Artificial Intelligence Engine (AI Engine). Said system and then dynamically adapt the initial cognitive model to the student's ongoing progress using personalized software Agents. Said system and methods include a computer network that incorporates a server-side AI Engine and a collection of client-side software Agents embodied as animated characters. The program connects new information to prior knowledge and then strengthens these connections through dedicated learning Activities, customized to the student, to ensure that effective, and real, learning occurs.

[0005] A College Education is an educational program that provides a bachelor's or higher degree. College Education can also include programs that provide a master's or doctoral degree.

[View Application Status](#)



Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>)  
 Copyright (<http://ipindia.gov.in/copyright.htm>) Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>)  
 Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>) Contact Us (<http://ipindia.gov.in/contact-us.htm>)  
 Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

**Dr. E. VIJAYAKRISHNA RAPAKA**  
 B.Tech. (Mech.), M.Tech.(Energy), Ph.D. (IIT Madras)  
 M.I.S.T.E., F.I.I.P.E., M.C.S.I M.C.I.I.  
**PRINCIPAL**  
 Rajiv Gandhi College of Engineering & Technology  
 Pondy - Cuddalore Main Road,  
 Kirumampakkam, Puducherry - 607 402.