

## **Resume**

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**Dr. S. SURESH [Sankaranarayanan Suresh]**

**Position:**

**a)Professor & Programme Coordinator(IoT and Computer Networking Specialisation)**

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**Member of Professional Societies**

1. Senior Member, Computer Society of India -  
Membership No: 00080704

2. Senior Member, IEEE - Computer society,  
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**Area of Academic Research:**

1. IoT
2. Fog Computing
3. Machine learning
4. Deep Learning
4. Intelligent Agents
5. Networking

### **I. Educational Qualifications:**

**1. Doctor of Philosophy:** School of Electrical and Information Engineering, Division of Information Technology, Engineering and Environment, University of South Australia,

Australia, August 2006 -- **Ph.D. Thesis Title: "Studies in Agent Based IP Traffic Congestion Management in DiffServ Networks".**

**2. Master of Science - by Research:** Ramanujan Computing Centre, Faculty of Information and Communication Engineering, Anna University, Chennai, India, Dec., 2001. **Master's Thesis title: "Applications of Policy and Mobile Agents in the Management of Computer Networks".**

**3. Bachelor of Engineering** (Computer Science & Engineering) - **First Class**, Department of Computer science & Engineering, Faculty of Engineering, University of Madras, Chennai, India, May, 1999. **B.E project title: "Development of a Database in Oracle for Production Control".**

## **II. Patents Granted**

**380185:** IoT Based Agricultural Monitoring System and Method Thereof [26/10/2021 for 20 years]

**388847:** An IoT Fog Based Power Distribution For Smart Energy Management and A Method Thereof [ 10/02/2022 for 20 years]

## **III. Patents Published**

**202141057128 :** A Mortality Prediction System With Explainable AI [08.12.2021]

**202041052748 :** A System For Crop Growth Prediction and a Method There of [18/12/2020]

**201941001246 :** Smart Energy Management and Demand Reduction in IoT-Fog Based Power Distribution System [03/01/2020]

**201841040005 :** An IoT Based Water Supply Management System [18/10/2019]

**201841039820 :** An Internet of Things-Fog Based Underground Pipeline Monitoring System Using Multi Agents [18/10/2019]

**201841039684 :** Multi Tier Fog Computational Model For The Internet of Things [20/09/2019]

**201841049822 :** A Distributed Deep Neural Network Based AI Filter in IoT-Edge for BigData [ 06/09/2019]

**201841039686:** A System and a method for monitoring and controlling Hydroponics Environments [21/06/2019]

**201841039685 :** Publish/Subscribe Based Remote System for Fog Computing and A Method Thereof [07/06/2019]

**201741044869:** A System and Method for Efficient Power Distribution with Intelligence and Security in Internet of Things System [08/03/2019]

## **IV. Technology Transferred to HealthTech Technologies, Bangalore**

- A System and Method for Efficient Power Distribution with Intelligence and Security in Internet of Things System
- Smart Energy Management and Demand Reduction in IoT-Fog Based Power Distribution System
- An IoT Fog Based Power Distribution for Smart Energy Management and A Method Thereof

## **V. Publications - Peer Reviewed(2015-2021)**

**{Google Scholar Citation: 1349, H-Index: 19, i10 Index=45}**

**{Scopus Citation: 598, H-index: 13}**

### **A. Book Chapters:**

1. Suresh, S., "Applications of Artificial Intelligence for Smart Agriculture", AI Based Services for Smart Cities and Urban Infrastructure, Ch013, pp.277-288, IGI Global,

- 2020.
2. Ravichandran A., Suresh S. (2021) Anomaly Detection in Videos Using Deep Learning Techniques. In: Choudhary A., Agrawal A.P., Logeswaran R., Unhelkar B. (eds) Applications of Artificial Intelligence and Machine Learning. Lecture Notes in Electrical Engineering, vol 778, pp.263-275, 2021. Springer, Singapore. [SNIP-0.204]
  3. Suresh S., Omalur S., Gupta S., Mishra T., Tiwari S.S. Traffic Management System Based on Density Prediction Using Machine Learning. In: Kaiser M.S., Xie J., Rathore V.S. (eds) Information and Communication Technology for Competitive Strategies (ICTCS 2020). Lecture Notes in Networks and Systems, vol 190, pp. 269-276, 2021. Springer, Singapore.[SNIP – 0.797]
  4. Mandal M., Zakir A.Q., Suresh S. Weather Prediction Based on Seasonal Parameters Using Machine Learning. In: Kaiser M.S., Xie J., Rathore V.S. (eds) Information and Communication Technology for Competitive Strategies (ICTCS 2020). Lecture Notes in Networks and Systems, vol 190, pp. 195-202, 2021. Springer, Singapore. [SNIP-0.797]
  5. Narayanan L.K., Suresh S. Multi-Agent Based Water Distribution and Underground Pipe Health Monitoring System Using IoT. In: Latifi S. (eds) 16th International Conference on Information Technology-New Generations (ITNG 2019). Advances in Intelligent Systems and Computing, vol 800, pp.395-400, Springer, Cham
  6. Mookherji S., Suresh,S. Traffic Data Classification for Security in IoT-Based Road Signaling System. Soft Computing in Data Analytics. Advances in Intelligent Systems and Computing, vol 758, pp.589-599, Springer, Singapore, 2018
  7. Tom R.J., and Suresh, S, Performance Evaluation of RPL Routing Protocol for IoT Based Power Distribution Network. Smart and Innovative Trends in Next Generation Computing Technologies. Communications in Computer and Information Science, vol 828, pp.212-226, Springer, Singapore, 2018.
  8. Suresh,S and Ganesan,S, “Application of Intelligent Agents in Mobile Commerce- A Review”, Mobile Commerce:Concepts, Methodologies,Tools and Applications, Chapter 30, pp.566-603, IGI Publishing, 2017
  9. Suresh, S, “Application of Intelligent Agents in Biometric Secured Mobile Payment System”, Encyclopedia of E-commerce Development, Implementation and Management, Chapter 92, pp.1280-1306, IGI Publishing, 2016
  10. Suresh, S, “Application of Intelligent Agents in Mobile Shopping”, Encyclopedia of E-commerce Development, Implementation and Management, Chapter 93, pp.1307-1332, IGI Publishing, 2016

## **B. Publications in Journals**

### **B.1 SCIE & Scopus Indexed**

#### **Internet of Things (IoT), Artificial Intelligence and Machine Learning**

1. Srividhya, S, Suresh, S, Kozlov, S A and Joel J P C Rodrigues, “Fuzzy Aggregator Based Energy Aware RPL Routing for IoT Enabled Forest Environment”, Accepted in Computers, Materials and Continua, Tech Science Press[**Impact Factor-3.772, SNIP-3.089**]
2. Shaw, P, Pachpor, K, Suresh, S, “Explainable AI Enabled Infant Mortality Prediction Based on Neonatal Sepsis”, Accepted in Computer Systems Science and Engineering, Tech Science Press[ **Impact Factor-1.486, SNIP-0.382**]
3. Gouthaman, P and Suresh, S, “Prediction of Risk percentage in software Projects by training Machine Learning Classifiers, International Journal of Computers and Electrical Engineering, Vol.94, pp. 1-9, Elsevier, 2021. [**Impact Factor- 3.818, SNIP-1.608**]
4. Srividhya, S, Suresh, S, Kozlov, S A and Joel J P C Rodrigues, “Compression Aware

- Aggregation and Energy Aware Routing in IoT-Fog Enabled Forest Environment", Sensors Journal, Vol.21 (13), pp.1-18. MDPI, 2021[**Impact Factor-3.576, SNIP- 1.56**]
5. Suresh,S, Malavika Prabhakar, Sreesta Satish, Purna Jain, Anjali Ramprasad, Aiswarya Krishnan, "Flood Prediction Based on Weather Parameters Using Deep Learning", IWA Journal on Water and Climate Change, Vol.11(4), pp. 1766-1783, 2020. [**Impact Factor-1.900, SNIP-0.737**] [**Impact Factor-1.900, SNIP-0.737**]
  6. Lakshmi Kanthan, N and Suresh,S, "IoT Based Water Demand Forecasting and Distribution Design for Smart City", IWA Journal of Water and Climate change, Vol.11(4), pp. 1411–1428, 2020 [**Impact Factor -1.900, SNIP-0.737**]
  7. Lakshmi Kanthan,N, Suresh,S, Joel J P C Rodrigues, Sergei Kozlov, "Water Demand Forecasting Using Deep Learning for Water Distribution System Design in IoT Enabled Water Distribution Network, International Journal of Computer Communications and Control, Vol.15(6), 1-15, 2020.[**Impact Factor- 2.293, SNIP-0.927**]
  8. Veeramanikandan, M and Suresh,S, "Performance Analysis of IoT Application Protocols over the Different Communication Methods", Ciência e Técnica Vitivinícola Journal, Vol.34(11), pp.49-70, 2019 [**Impact Factor -0.875**]
  9. Veeramanikandan, M, Suresh,S, J P C Rodrigues, Vijayan Sugumaran, Sergei Kozlov, "Data Flow and Distributed Deep Neural Network Based Low Latency IoT-Edge Computation Model for Big Data Environment", Engineering Applications of Artificial Intelligence, Vol. 94, Elsevier, 2020 [**Impact Factor-6.212, SNIP- 1.815**]
  10. R J Tom , Suresh,S, J P C Rodrigues, "Agent Negotiation in an IoT-Fog based Power Distribution System for Demand Reduction", Sustainable Energy Technologies and Assessment, Vol.38, 2020 [**Impact Factor-5.353; SNIP-1.276**]
  11. R J Tom, Suresh,S, V H C Albuquerque, J P C Rodriguez, "Aggregator based RPL for IoT-Fog based power distribution System with 6LowPAN, "China Communications Journal(Co-Sponsored by IEEE Communication Society), Vol.17(1),pp.104-117, 2020 [**Impact Factor- 2.688, SNIP-1,121**]
  12. R J Tom, Suresh, J P C Rodriguez, "Smart Energy Management and Demand Reduction by Consumers and Utilities in an IoT-Fog based Power Distribution System", IEEE Journal on Internet of Things, Vol.6 (5), pp.7386-7394, 2019 [**Impact Factor- 9.515, SNIP- 3.874**]
  13. Veeramanikandan,M and Suresh,S, "Publish/Subscribe based Multi-Tier Edge Computational Model in Internet of Things for Latency Reduction",Journal of parallel and Distributed Computing, Vol.127, pp. 18-27, 2019 Elsevier [**Impact Factor-3.734 , SNIP-1.440**]
  14. Manav,M, Sameer,S, Suresh,S, Tom, R J and Veeramanikandan,M, "IoT Based Hydroponics System using Deep Neural Networks", Journal of Computers and Electronics in Agriculture, Vol.155,pp.473-486, 2018, Elsevier Publishing [**Impact Factor-5.565; SNIP-2.383**]

## **B.2 Scopus & Web of Science Indexed Journals:**

### **Internet of Things (IoT) & Data Analytics**

15. Ravichandran, A., Mahulicar, K., Agarwal, S., & Sankaranarayanan, S. Post Thoracic Surgery Life Expectancy Prediction Using Machine Learning. International Journal of Healthcare Information Systems and Informatics (IJHISI), 16(4), 1-20, 2021.[**SNIP-0.487**]
16. Abdul Qadir Zakir; Anushka Singhal; Gurkirat Singh; Pracheesh Pandey; Suresh Sankaranarayanan. Soil Utilisation Prediction for Farmers Using Machine Learning. International Journal of Sustainable Agricultural Management and Informatics, Vol.7 (1), pp.67-75, 2021[ **SNIP-0.541**]
17. Lakshmi Kanthan, N, Suresh, S, J P C Rodrigues, Pascal Lorenz, "Multi Agent Modeling for Underground Pipe Health and Water Quality Monitoring For Supplying Quality Water", International Journal of Intelligent Information Technologies, Vol.16(3),

IGI Global, 2020 **[SNIP-0.88]**.

18. Arpit Tripathi, Simran Kaur, Suresh,S, Lakshmi Kanthan,N and R J Tom, "Water Demand Prediction For Housing Apartments Using Time Series Analysis", International Journal of Intelligent Information Technologies, Vol.15(4), pp.57-75,IGI Global, 2019 **[SNIP-0.88]**

19. Suresh,S and Srijanee, M, "SVM Based Traffic Data Classification for Secured IoT Based Road Signalling system", International Journal of Intelligent Information Technologies, Vol.15(1),pp. 22-50, IGI Global, 2019 **[ SNIP-0.88]**

#### **Mobile Health Care**

20. Suresh,S and Vigneshwaran, U, "Biometric Secured Electronic Health Record", International Journal of E-Health and Medical Communications, Vol.7(4),pp. 1-27, IGI Publishing, 2016 **[SNIP-0.388]**

21. Suresh, S and Ganesan, S, "Application of Intelligent Agents in Health Sector", International Journal of E-Health and Medical Communications, Vol.7(1), pp. 1-30, IGI Publishing, 2016 **[SNIP-0.388]**

22. Smith J and Suresh, S, "Smart Agent based Hospital Search, Appointment and Medical Diagnosis", International Journal of E-Health and Medical communication,Vol.3(4), pp. 64-101, IGI Publishing, 2012 **[SNIP-0.388]**

23. Miller K and Suresh, S, "Applications of Policy based Agents in Wireless Body Sensor Mesh Networks for Patient Health Monitoring", International Journal of e-Health and Medical communications, Vol.2(2), pp. 24-45, IGI Publishing, 2011**[SNIP-0.388]**

#### **Agriculture & Environmental Systems**

24. Devadevan, V and Suresh, S, "Forest Fire Information System using Wireless Sensor Network", International Journal of Agriculture and Environmental Information System, Vol.8(3), pp. 52-67,IGI Publishing, 2017**[SNIP-0.579]**

#### **Networking**

25. Suresh S, "Performance of 802.11b Mesh Networks under Channel Interference for Wireless Internet", International Journal of Business Data communication and Networking, IGI publishing, vol.3(4), pp.47- 59,2007**[SNIP-0.320]**

### **B.3 Scopus Indexed Journals:**

#### **Internet of Things, Artiificial Intelligence and Machine Learning**

26. Shubra Jain, Ankit Kumar Parida, Suresh,S, "Water Scarcity Prediction for Global Region Using Machine Learning", Journal of Water, Vol. 14(1), pp. 69-88, Inderscience, 2021. [SNIP-0.489, Citscore- 1.1]

### **C. Publication in IEEE Xplore & ACM Digital Library (Peer Reviewed) – Scopus Indexed**

#### **Internet of Things, Artificial Intelligence and Machine Learning**

1. Naseela, P, Aditya, A, Suresh, S, "Application of Deep Learning for COVID Twitter Sentimental Analysis towards Mental Depression", Accepted in International Conference on ICT for Intelligent Systems, Ahmedabad, India, 22-23, April 2022[ **To published in Smart Innovation, Systems and Technologies, Springer**]
2. Akshat, K, Pranjal, P, Suresh, S, Lorenz, P, "COVID Penumoniam Prediction Based on Chest X-ray Images using Deep Learning", Accepted in IEEE International

- Conference on Communications, Seoul, Korea, May 16-20, 2022 [**H5-index- 10.05, Rank- 23**]
3. Ramkumar, S, Vasudevan, C K, Sarnaam, M K, Sahaana, K and Suresh,S, "Deep Convolution Network Analysis For Crop Growth Prediction", Accepted in IEEE International Conference for Convergence in Technology, Pune, India, 07-09, April 2022.
  4. Srividhya, S and Suresh, S, "IoT Enabled Energy Efficient Routing in Forest Fire", Accepted in International Conference on Communications and Cyber Engineering, April 9-10, 2021[ To be Published in Lecture Notes in Electrical Engineering, Springer]
  5. Srividhya,S and Suresh,S, "IoT-Fog Enabled Framework for Forest Fire Management", Fourth world Conference on Smart Trends in Systems, Security and Sustainability, London, UK, 2020, pp.273-276.
  6. Lakshmi Kanthan, N and Suresh,S, "IoT Enabled Smart Water Distribution and Underground Pipe Health Monitoring Architecture for Smart Cities " Proceedings of 5<sup>th</sup> IEEE International conference for Convergence in Technology,Pune, india, 2019 ,pp.1-7.
  7. Geogen, G and Suresh,S, "Lightweight Cryptographic Solutions for Fog based Blockchain", Proceedings of International Conference on Smart Structures and Systems (ICSSS), Chennai, India, 2019, pp. 1-5
  8. Rijo Jackson Tom and Suresh,S, "Multi Agent System Architecture for an IoT-FOG based Power Distribuiton Management System", Proceedings of IEEE International Conference on Artificial Intelligence, Smart Grid and Smart City Applications, Coimbatore, Tamilnadu, India,2019,pp.630-633
  9. Gouthaman,P and Suresh,S, "Agile Software Risk Management Architecture for IoT-Fog based System", Proceedings of IEEE International conference on Smart Systems and Inventive Technology, Tamilnadu, India, 2018, pp. 48-51.
  10. Veeramanikand, M and Suresh,S, "Publish/Subscribe Broker based Architecture for Fog Computing", Proceedings of IEEE International Conference on Energy, Communication, Data Analytics and Soft Computing, Chennai, India, August 01-02, 2017, pp.1024-1026.
  11. Rijo Jackson Tom and Suresh,S, "IoT based SCADA Integrated with Fog for Power Distribution Automation", Proceedings of 12th Iberian Conference on Information Systems and Technologies, Lisbon, Portugal, June 21-24, 2017, pp.1772-1775
  12. Shijo Mathew, T and Suresh, S, "Comparitive Analysis of AES and ECC in Automated Metering Infrastructure", Proceedings of IEEE International Conference on Wireless Communication, Signal Processing and Networking, Chennai, India, March 22-24, 2017, pp. 960-964.
  13. Suresh, S, Bhavya, J, Sakshi,S, Varun, K and Debarshi,G, "Home Monitoring and Security System", Proceedings of IEEE International Conference on ICT in Buisness, Industry and Government, Indore, Madhyapradesh, 2016
  14. Suresh, S, Yuthika, S, Srisha, C and Adithya Vardhini, G, "Home Based Fire Monitoring and Warning System", Proceedings of IEEE International Conference on ICT in Buisness, Industry and Government, Indore, Madhyapradesh, 2016
  15. Suresh, S, Anusha, H.N.S, Rajath,T, Soundarya, P and Prathyusha Vudatha, S V, "Automatic Lighting and Control System for Class Room", Prceedings IEEE International Conference on ICT in Buisness, Industry and Government, Indore, Madhyapradesh, 2016
  16. Vigneshwaran, U and Suresh, S, "Frame Based Biometric Authentication system for Healthcare", Proceedings of 2<sup>nd</sup> ACM International Conference on Information and Communication Technology for Competititve Strategies, Udaipur, Rajasthan, India, March 4-5, 2016, pp.1-5.
  17. Giridhar, R and Suresh, S, "Cluster based Certificate Authority Scheme in Wireless

Sensor Networks", Proceedings of IEEE International Conference on Wireless Communication, Signal Processing and Networking, Chennai, India, March 23-25, 2016, pp.382-386.

18. Devadewan, V and Suresh, S, "Energy Efficient Routing Protocol in Forest Fire Detection System", Proceedings of 6<sup>th</sup> IEEE International Conference on Advanced Computing Conference, Bhimavaram, Andrapradesh, India, Feb 27-28, 2016, pp.618-622. ISBN: 978-1-4673-8286-1