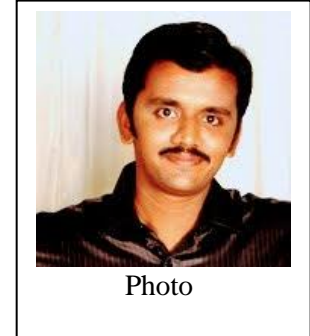# UNIVERSITY COLLEGE OF ENGINEERING PATTUKKOTTAI
(A CONSTITUTENT COLLEGE OF ANNA UNIVERSITY)
RAJAMADAM -614701

FACULTY PROFILE

1) **NAME (Capital Letters)**   : K. SWAMINATHAN

2) **DESIGNATION**   : TEACHING FELLOW

3) **DEGREE**   : ME

4) **DEPARTMENT**   : Electronics And Communication

5) **ADDRESS FOR COMMUNICATION:** 6/366 Srivallala Kanda AyyanarNagar, Ayyampatti (po),

   Gundur(po),Trichy- 620007

6) **MAIL ID**   : swaminathan.vinoth@gmail.com

7) **PHONE NO.**   : 9003313408

8) **RESEARCH GUIDANCE**   :-

9) **PUBLICATIONS (International & National): 23**

10) **CONFERENCES/WORKSHOPS/SEMINAR/ SHORT TERM REFRESHER COURSE ATTENDED: -** 13

11) **CONFERENCES/WORKSHOPS/SEMINAR ORGANIZED :-**

12) **OTHER CONTRIBUTION (IF ANY) :-**   Patent - 06

   Editorial Board : For IGI Book Chapter

1. **Publication.**

   1. A paper titled "**Implementation of Reconfigurable IDCT Architecture on FPGA For Multiple Video Standards(MPEG)**" published in a conference "**International conference on science & engineering trends**" on December 13-14 2012
   2. The paper "**A 2-D IDCT Architecture Using Skew Registers For Video Codec Application**" is accepted for publishing in conference "**International Conference Research And Development Prospects On Engineering & Technology**" on March 29-30 2013
   3. A paper with "**A 2-D IDCT Architecture without Memory Registers For Multiple Video Standards**" in **National Conference On Advanced Computational Intelligence System-NCACIS'13-2013** on March 02 2013
   4. A paper entitled as "**A 2-D IDCT Architecture Using Skew Registers For Video Codec Application**" in **National Conference On Advanced computational Intelligence System-NCACIS'13-2013** on March 02 2013
   5. In a national level conference conducted by KCET **National Level Conference On Recent Trends In Emerging Trends** on March 06 2012, paper titled "**Implementation of IDCT Architecture**" is published
   6. In a national level conference conducted by JJCET **National Level Conference On Signal Processing& Communication** on March 06 2012, paper titled "Reconfigurable IDCT Architecture" is published
   7. A paper entitled "**Self-Healing FIR Filter using Error Sustain Adder and Synthesizable Multiplier**" has been Published by: **The Mattingley Publishing Co., Inc.in May –June 2020** with ISSN Number : 0193-4120 Page No. 26777-2678626777
   8. A paper entitled "**Holistic Near Field Communication (NFC) Approach Digital access Based on IoTize**" in May-June 2020,Published by: **The Mattingley Publishing Co., Inc.**ISSN: 0193-4120 Page No. 10920 - 10926-10920
   9. Published a paper in IEEE Xplore with entitled as " **IoT-Based Smart Transformer Monitoring System with Raspberry Pi**" on February 2022
   10. A paper titled " **Design and Implementation of PV Powered Air Cooler System Using Thermoelectric Cooler**" has been published in IEEE Xplore on February 2022.
   11. Swaminathan, K., Ravindran, V., Ram Prakash, P., Satheesh, R. (2022). **A Perceptive Node Transposition and Network Reformation in Wireless Sensor Network.** In: Iyer, B., Crick, T., Peng, SL. (eds) Applied Computational Technologies. ICCET 2022. Smart Innovation, Systems and Technologies, vol 303. Springer, Singapore. https://doi.org/10.1007/978-981-19-2719-5_59.
   12. Swaminathan, K., Ravindran, V., Ponraj, R., Satheesh, R. (2022). **A Smart Energy Optimization and Collision Avoidance Routing Strategy for IoT Systems in the WSN Domain.** In: Iyer, B., Crick, T., Peng, SL. (eds) Applied Computational Technologies. ICCET 2022. Smart Innovation, Systems and Technologies, vol 303. Springer, Singapore. https://doi.org/10.1007/978-981-19-2719-5_62.
   13. SWAMINATHAN, K., VENNILA, C., & PRABAKAR, T. N. (2021). **NOVEL ROUTING STRUCTURE WITH NEW LOCAL MONITORING, ROUTE SCHEDULING, AND PLANNING MANAGER IN ECOLOGICAL WIRELESS SENSOR NETWORK**. In Journal of Environmental Protection and Ecology (Vol. 22, Issue 6, pp. 2614–2621).
   14. **An efficient SAR image detection based on deep dense-mobile net method** R. Bhavani ; V. Ramkumar ; V. Ravindran3 ; R. Sindhuja ; K. Swaminathan 7th International Conference on Computing in Engineering & Technology (ICCET 2022), 2022 p. 92 – 95 Conference: 7th International Conference on Computing in Engineering & Technology (ICCET 2022).
   15. K.Swaminathan, Dr.B.Rajappa, **A Novel Mixed Routing Methodology (MRM) For Heterogeneous Sensor Network Using Machine Learning** Neuro

Quantology September 2022 Volume 20, Issue 9,Page 2435-2445, doi: 10.14704/nq.2022.20.9.NQ4428.

16. Paranthagan B, Vijay Ravindran , M.Marimuthu, Satheesh Ragunathan, Swaminathan K Ramkumar V,**Design and Implementation of PV Powered Air Cooler System Using Thermoelectric Cooler.** 2021 Innovations in Power and Advanced Computing Technologies (i-PACT) | 978-1-6654-2691-6/21,2021 IEEE | DOI: 10.1109/I-PACT52855.2021.9697007.

17. Vijay Ravindran,Ramprakash Ponraj C.Krishnakumar, Satheesh Ragunathan,Ramkumar V, Swaminathan K.**IoT-Based Smart Transformer Monitoring System with Raspberry Pi,** 2021 Innovations in Power and Advanced Computing.

18. **Prediction of EV battery SOC using a charging and discharging model** V. Ravindran ; A. Durgadevi R. P. Ponraj ; S. Ragunathan ; K. Swaminathan 7th International Conference on Computing in Engineering & Technology (ICCET 2022), 2022 p. 306 – 310 ,Conference: 7th International Conference on Computing in Engineering & Technology (ICCET 2022).

19. **An effective method for charging electric vehicles through wireless power transfer system,** R. P. Ponraj ; K. Badrinath;V. Ravindran; S. Ragunathan ; K. Swaminathan,7th International Conference on Computing in Engineering & Technology (ICCET 2022), 2022 p. 302 – 305.

20. K.Swaminathan ,**A Novel Composite Intrusion Detection System (CIDS) for Wireless sensor,** Network Proceedings of the International Conference on Intelligent Data Communication Technologies and Internet of Things (IDCIoT 2023) DVD Part Number: CFP23CV1-DVD; ISBN: 978-1-6654-7450-4. Jan 2023.

21. K.Swaminathan **, An Artificial Intelligence model for effective routing in WSN,** Perspectives on Social Welfare Applications' Optimization and Enhanced Computer Applications, chapter 5, **IGI Global publishers, USA, DOI: 10.4018/978-1-6684-8306-0.ch005**

2. FDP/WORKSHOP ATTENDED:

1. A FDP on "**Internet of things- Concepts and implementation**" organized by SVKM'S NMIMS SCHOOL OF BUSINESS MANAGEMENT under AICTE sponsor between Dec 13 – Dec17, 2021.

2. Attended a Faculty Development program(FDP) organized by SHIVANI INSTITUTE OF TECHNOLOGY on 29th & 30 th Dec-2009

3. A seminar was attend in "**Printed Circuit Board & fabrication Process**" Conducted at JJ COLLEGE OF ENG. & TECH on 10 th, 11th Dec-2012.

4. A seminar on **ANDROID** Conducted JJCET on FEB-2013 was attended.

5. An AICTE sponsor FTP on "**Principal of Artificial Intelligence, Machine Learning and Deep learning**" conducted by Department of studies in Computer science, University of Mysore.

6. An International Webinar on **"Challenges in 500GW by 2030"** on 8- March 2022.

7. A FDP on " **Internet of Things- Smart way to Future"** by " Seshadri Rao Gudlavalleru Engg.College, Andhra Pradesh between 18-23 July 2022.

8. An **Intellectual Property Awareness** program organised by Intellectual Property Office, India on March 31, 2022.

9. **"Hands-On Workshop on Software Defined Radios"** organized by AICTE Training and Learning (ATAL) Academy at SHIV NADAR University between 07/03/2022 to 11/03/2022 was attended.

10. A one week Short term FDP by Ramrao Institute of Technology, Navi Mumbai on**"Internet of Things in Industry"** between June 8-12 ,2020.
11. An international Webinar **"Multimode Antennas for Future Wireless Networks"** ,Organized by Department of Electronics and Communication Engineering, SNS College of Technology, on 01.06.2020.
12. **"Advances and Challenges in Industrial Automation, E-vehicles, Product and Process Controls Manufacturing in Electrical and Electronics engineering"** organized by the Department of Electrical and Electronics Engineering, from 3.06.2020 to 7.06.2020 was attended.
13. **"Recent Trends in Technology & Digital Education"** organized by Department of Electronics & Telecommunication Engineering in association with ISTE from 27th May to 29 from 27th May to 29th May 2020.
14. A Webinar on **"Emergence of Data Analytics and its impact on Data Warehouse"** held on 31st May, 2020, organised by Computer Engineering Department, VIVA Institute of Technology, Virar, and Maharashtra. Was successful finished.
15. Online **Quiz on "Digital System Design with ASM Charts"** conducted on 5/29/2020 with 65 % score by Holy Mary Institute of technology and science, Telugana.
16. **"Internet of Things: Concepts and Implementation" conducted by AICTE Training and Learning (ATAL)** Academy between 13/12/2021 to 17/12/2021 at SVKM'S NMIMS SCHOOL OF BUSINESS MANAGEMENT – INDORE was attended.
17. **"Principles of Artificial Intelligence, Machine Learning, and Deep Learning" by AICTE Training and Learning (ATAL)** Academy from 26/11/2021 to 30/11/2021 at Dept. of Studies in Computer Science.
18. A One Week International Faculty Development Programme on **"Cyber Forensics and Information Security"** held from 24-02-2022 to 03-03-202 by
DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE (AUTONOMOUS) Chennai – 600 10.
19. **"Research proposal writing for funded projects"** by Dr.V.Lingasamy,Manager, Research and Development Rakuten Mobile Inc, Bangalore on 07.11.2022.
20. **"Digital Circuit Design using Verilog"** a webinar conducted by "Coimbatore Institute of Technology" on 10-july-2023.
21. **"Challenges & Future direction for MIMO Communication System"** by "Coimbatore Institute of Technology" conducted on 11-July-2023(FN).
22. **" Role of Multi antenna Signal Processing Technique for futuristic wireless Communication"** a webinar conducted on 11-July-2023(AN) by "Coimbatore Institute of Technology"
23. An **AICTE Sponsored a**ttended one week FDP on **"Cloud Infrastructure"** Conducted by **Anamacharya Institute Of Science and Technology, Kadapa"** on **21-25 th August 2023.**

3. Patent Published.

1. **Title**: AI based vision Gadget for Visually Impaired people.
   Date: 07/05/2020.
   Status: Published.
   Inventor position: 3.

2. **Title** : A integrated IoT based speed control and Crash Avoidance system
   Date: 30/12/2022
   Status: Published.
   Inventor position: 2.
3. **Title**: Energy efficient Heating based INSTANT RICE PREPARATION.
   Date: 28/10/2022
   Status: Published.
   Inventor position: 6.
4. **Title**: AI techniques applied IoT monitored Vertical Gardening System.
   Date: 29/07/2022.
   Status: Published.
   Inventor position: 7.
5. **Title**: IoT based Retractable Roofing system cum solar power generation using Foldable solar panel.
   Date: 11/04/23
   Status: published.
   Inventor position: 1
6. **Title**: A Smart Baggage Trolley Enabled With Iot Connectivity.
   Date: 28/07/2023
   Status: published.
   Inventor position: 1

4. Professional body membership.

1. **Technical body name: Institution of Engineers (India)** IEI
   Member type: Associate member.
   Member no   : AM 148793-3
2. **Technical body** name: **Indian Society for Technical Education (ISTE) ISTE**
   Member type: Permanent member.
3. **Technical body name: International Association of Engineers (IAENG).**
   Member no: 126163.
4. **Technical body name: Institute for Engineering Research and Publication (IFERP)**
   Member type: Professional Membership,
   Member no   : PM90814723.

5. **Technical body name: Internet Society (ISOC)**
   Member type: Global Member
   Member no   : 2271218.
6. **Technical body name: European Society for Research on Internet Interventions (ESRII)**
   Member no   : 55792IN.

5. Reviewer position

➢ I am playing the Reviewer role of the "**Computational Intelligence and Neuroscience**" (ISSN: 6875273, 16875265). Review identifier - ID: **9131703.**
➢ I am the reviewer of the "**Perspectives on Social Welfare Applications' Optimization and Enhanced Computer Applications**" (ISBN13:

9781668483060,ISBN10: 1668483068, EISBN13: 9781668483084) IGI-Global International Academic Publisher,USA.(**Scopus Indexed Book Chapter**)

- ➢ I am Playing as a Reviewer role of the "Current Social Sciences" (**ISSN:** 2772-3178 (Online), **ISSN:** 2772-316X (Print))
- ➢ I am reviewer of the **"AI Tools and Applications for Women's Safety"** (ISBN13: 9798369314357 | ISBN10: N/A | EISBN13: 9798369314364), IGI-Global International Academic Publisher, USA

6. Ongoing International Book Editing Work (2022-2023)

Title of the Book **"Digital Twin Technology and AI Implementations in Future-Focused Businesses".** Editor: **Swaminathan Kalyanaraman.** IGI-Global International Academic Publisher, https://www.igi-global.com. Completion: February2024,CFC:**https://www.igi-global.com/book/digital-twin-technology-implementations-future /330155.**