

SIJI A. THOMAS

Assistant Professor, Dept. of Applied Electronics and Instrumentation Engineering
Mount Zion College of Engineering, Kadammanitta
Pathanamthitta, Pin: 689649
Email ID: sjiann.mzce@gmail.com

PROFESSIONAL SUMMARY

Ms. Siji A. Thomas works in the broader domain of Image Processing with a special focus on Machine Learning- Deep Learning. Her other research interests include Internet of Things, Smart Agriculture and Biomedical Instrumentation.

ACADEMIC PROFILE

- M. Tech – Communication Engineering from Amal Jyothi College of Engineering under APJ Abdul Kalam Technological University, Kerala with CGPA of 9.02/ 10 (2017-'19).
- B. Tech – Applied Electronics and Instrumentation Engineering from Saintgits College of Engineering, Kottayam under Mahatma Gandhi University, Kerala in 2016 with CGPA of 8.00/ 10 (2012-'16).

WORK EXPERIENCE

Assistant Professor (August 2019- Present)

Department of Applied Electronics and Instrumentation Engineering
Mount Zion College of Engineering, Kadammanitta, Pathanamthitta

Teaching Assistant

Department of Electronics and Communication Engineering

Worked as a Teaching Assistant for B. Tech students while pursuing Post Graduation

PROJECTS

Funded Projects

- “An Indigenous Automated GSM based Water Pump Station and Water Quality Measurement System for Kerala Water Authority and for Civic Societies”, funded by Kerala State Council for Science, Technology and Environment (KSCSTE), with File No: 00970/SPS64/2019/KSCSTE.
- “Design and Development of a Universal Retinal Fundus Camera for Retinal Disease Identification in Rural Areas”, funded by Innovation Idea Unleashed - I2U, a research funding agency organized by Amal Jyothi Research Scholars Community which is a subsidiary agency under Innovation & Entrepreneurship Development Centre (IEDC) under DST Government of India with wide order number ASCIIEC0112018.

Guideship Project

- “Smart Pesticide Spraying IoT Bot” for final year B. Tech Students in Department of Applied Electronics and Instrumentation, Mount Zion College of Engineering, Pathanamthitta in the year 2020.
- “Intelligent Water Pump Controller” for third year B. Tech Students in Department of Applied Electronics and Instrumentation, Mount Zion College of Engineering, Pathanamthitta in the year 2019.
- “Temperature Controlled 230V Fan” for third year B. Tech Students in Department of Applied Electronics and Instrumentation, Mount Zion College of Engineering, Pathanamthitta in the year 2019.

M. Tech

1. Design and Analysis of Retinal Imaging and Disease Identification System
2. Early Detection of Retinal Diseases Using Probabilistic Neural Networks

B. Tech

1. Tele- operated Robotic Arm Using LabVIEW
2. Biomedical Sleep Inducer
3. Automatic Washroom Light Switch Circuit

PUBLICATIONS

- “Design of a Portable Retinal Imaging Module with Automatic Abnormality Detection”, (2020) in Biomedical Signal Processing and Control, Elsevier (Scopus- Indexed) Volume 60, with reference number- 101962.
- “A Comparative Analysis on PNN and CNN Classifiers for Retinal Disease Detection Using Fundus Images”, (2020) in Taylor and Francis Book (Scopus- Indexed).
- Accepted “Design of an IoT based Quality Controlled Pesticide Sprayer Using Plant Identification”, (2020) in IoT Protocols and Applications for Improving Industry, Environment and Society (Scopus- Indexed) by IGI Publishers with reference number 260720- 040938.

CONFERENCE PROCEEDINGS

- “A Comparative Analysis on PNN and CNN Classifiers for Retinal Disease Detection Using Fundus Images”, International Conference AICERA- ICETS, held at Amal Jyothi College of Engineering, Kottayam on 18th July 2019.
- “Early Detection of Retinal Diseases Using Probabilistic Neural Networks” in Image Processing Applications Session of the Kerala State Technological Congress 2019 organized at Government Engineering College, Thrissur on 16th Feb 2019.

AWARD

Special Jury Award for the Project “Early Detection of Retinal Diseases Using Deep Neural Networks” in CSI-Inapp *National Student Project Award* Competition held at Technopark, Trivandrum.

RESOURCE PERSON

Resource person for STTP on “LATEX- An Effective Professional Type Setting Tool”, conducted at Amal Jyothi College of Engineering, Kanjirappally from 21st to 25th January 2020.

OTHER ACHIEVEMENTS

- Secured B. Tech SGPA topper award in the year 2015 and 2014.
- Coordinator for paper presentation contest held at Amal Jyothi College of Engineering, Kanjirappally.
- M. Tech Students Council Member, ECE Department Association Member at Amal Jyothi College of Engineering, Kanjirappally for the year 2017- 2019.
- Merit certificate for the project “Tele-Operated Robotic Arm” in national level competition SRISHTI 2016 held at Saintgits College of Engineering, Kottayam
- Participation certificate in Quiz Programme conducted by IETE students forum (ISF) in association with Department of ECE at Saintgits College of Engineering in the year 2015.
- Merit certificate for the project “Automatic Washroom Light Switch Circuit”, as internal exhibit in national level competition SRISHTI 2015 held at Saintgits College of Engineering, Kottayam.
- Participation certificate in the event “Maze Mania” held as a part of HORIZON 2014, the National Level Technical Fest conducted by the Department of ECE, Saintgits College of Engineering, Kottayam.
- Merit certificate in “IT Wizard Curriculum in C++” conducted by NIIT during the year 2009.
- Merit certificate in “IT Wizard Curriculum in C” conducted by NIIT during the year 2008
- Distinction in “Holy Faith Talent Search Examination” conducted by Holy faith International, New Delhi in the year 2006.
- Merit certificate in “K.C.P Scholarship”, held at Immanuel Marthoma Central School in the year 2001.
- Merit certificate with consolation prize in the competitive examination conducted by KPSE Board Trust in the year 1999.

FDPs/ STTPs

- FDP on “Artificial Intelligence, Machine Learning and Deep Learning” conducted by Karpagam College of Engineering, Tamil Nadu under AICTE Training And Learning (ATAL) Academy from 2nd to 6th February 2021.

- FDP on “Internet of Things” conducted by Amal Jyothi College of Engineering, Kanjirappally under AICTE Training And Learning (ATAL) Academy from 11th to 15th January 2021.
- FDP on Future of Multiprocessor System: Networks- on- Chip hosted by Department of Electronics and Communication, Saintgits College of Engineering, Kottayam from 16th to 20th December 2019.
- STTP on “Impact of Artificial Intelligence and Deep Learning on Internet of Things for Designing Smarter Products”, conducted by Francis Xavier Engineering College, Tirunelveli from 7nd to 12th December 2020.
- STTP on “Paradigm Shift in Assessment and Evaluation Practices for Engineering Graduates”, conducted by Amal Jyothi College of Engineering, Kanjirappally from 7th to 12th December 2020.
- Graphical Programming with LabVIEW training at LabVIEW Academy Amal Jyothi College of Engineering, Kanjirappally from 28th May to 8th June 2018.
- Exploring the applications of Embedded Systems & Internet of Things, at Entrepreneurship Development Club, Amal Jyothi College of Engineering, Kanjirappally from 16th to 20th January 2018.
- LATEX- An effective professional Type Setting Tool, at Amal Jyothi College of Engineering, Kanjirappally from 7th and 8th November 2017.

TRAININGS

- Training programme on Universal Human Values conducted by AICTE from 2nd to 6th November 2020.
- Instrumentation Maintenance and Control from FACT, Aluva
- Fiber Optics Communication training at BSNL, Trivandrum
- KELTRON, Trivandrum
- Attended introductory training in “PLC & SCADA” from YOKOGAWA Technical School, Bangalore
- Programming in C at Aptech Computer Education, Thiruvalla

WEBINARS

Attended 30+ webinars organized by various colleges, industries and IT Companies all over India.

LANGUAGE SKILLS

LATEX, MATLAB, LabVIEW

PROFESSIONAL STRENGTHS

- Good communication skills and confident to work efficiently in both independent and team environments.

- Quick learner, enthusiastic, motivator, open to learn new ideas and technologies, interpersonal skills, modern classroom technology
- Ability to work effectively on a team or independently with a high degree of creative problem-solving techniques and to prioritize, organize and complete tasks on time in a fast paced, deadline driven environment
- Advanced problem solving, abstract thinker that combines ability to analyze information problems and/or identifies better ways to meet business needs
- Possess creative and curious approach to tackle complex challenges, leveraging right tools and resources to achieve favorable results

TECHNICAL SERVICES

- **Reviewer** for Scopus Indexed Book “IoT Protocols and Applications for Improving Industry, Environment and Society”
- **Course Coordinator** for KTU Sponsored Faculty Development Programme (2021)

RESPONSIBILITIES HANDLED SO FAR

- Placement Coordinator (2020-2021)
- Skill Development in Charge (2020)
- Student Council Member (2017-2019)
- Department Association Member (2017-2019)
- Paper Presentation Contest Coordinator (2019)

PROFESSIONAL MEMBERSHIP

Data Science Foundation, International Association of Engineers