

Sasinda Chandula Prabhashana

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Sri Lanka

Research Interests

My research interests lie in the areas of Wireless Communication, Computer Networks, Electromagnetics, Signal Processing Quantum Communication and Optical Communication.

Education

Bachelor of the Science of Engineering (BSc Eng. [Hons])

11/ 21/ 2016 – 01/26/ 2021

Department of Electrical and Electronic Engineering, Faculty of Engineering, University of Jaffna, Sri Lanka
(www.eng.jfn.ac.lk)

- Obtained BSc. Engineering degree in Electrical and Electronic Engineering with a **First Class Honours**
- Final **Cumulative GPA of 3.75 (out of 4.00)**.
- **Best Overall Performance in Electrical and Electronic Engineering | Gold Medalist**
- **Ranked 2nd** in the batch out of 75 students

Secondary Education

01/2006 – 08/ 2015

Central College Anuradhapura, Sri Lanka

GCE Advanced Level- (Physical Science Stream): - 3 "B" s for Combined Maths, Physics, Chemistry

GCE Ordinary Level: - 9 "A" s for all subjects

Awards and Achievements

Undergraduate

- **Prof. Eliathamby Ambikairajah (UNSW Australia) Gold Medal** 2021
To field top of Electrical and Electronic Engineering. [best overall performance in Electrical and Electronic Engineering]
- **The Migara Ratnatunga Trust Award (2020/2021)** – (Institute of Engineers Sri Lanka- IESL) 2021
For the best industrial training for university undergraduate in Sri Lanka- Electrical and Electronic Engineering
- **Manamperi Award Best Undergraduate Engineering Research Project** -Sri Lanka Association for the Advancement of Science (SLASS). 2021
First runners up
- **Eng. E.W. Karunaratna Award 2020/2021, Best Undergraduate Project in Electrical Engineering** -Institute of Engineers Sri Lanka (IESL) 2021
Merit Award
- **Prof. Eliathamby Ambikairajah (UNSW Australia) Award** 2021
Best performance in semester 08: - Electrical and Electronic Engineering.
- **Prof. Eliathamby Ambikairajah (UNSW Australia) Award** 2019
Best performance in semester 05: - Electrical and Electronic Engineering.

- **Prof. Eliathamby Ambikairajah (UNSW Australia) Award** 2018
Best performance in semester 04: - Electrical and Electronic Engineering.
- **Summer Research Internship** 2019
*At Indian Institute of Technology Gandhinagar (IITGN)-Power systems and Smart grid Lab
Funded by the Government of India*

High School

- **Australian National Chemistry Quiz** -Royal Australian Chemical Institute 2021
Distinction Pass
- **Annual Presentations of Awards 2011**-Central College Anuradhapura 2012
Merit Award at GCE Ordinary Level - (Nine Distinctions)

Certifications and Licenses

- Cisco Certified Network Associate (CCNA)-(200-301)
- Cisco Certified Network Specialist (ENCOR)-(350-401)
- ICSI | CNSS Certified Network Security Specialist
- CCNP Enterprise Advanced Routing (ENARSI)-(Reading)
- Red Hat Certified System Administrator-RHCSA (Reading)
- Docker and Kubernetes (Reading)

Publications

International Abstracts

- Darukeesan Pakiyarajah, **Prabhashana Wel Hengodage Sasinda Chandula**, Thiruvaran Tharmarajah," A Comparison of Electromagnetic Radiation from Commonly Used Communication Devices in an Indoor Environment", *Technological Advances in Science, Medicine and Engineering Conference*, 2021

International Patent Rights

- **"System and Method for Automobile Emission Measurement"**-WIPO PCT WO 2022 /185119 A1- Date of the Patent: (Sept 09, 2022)

National Patent Rights

- "IOT Based Portable Emission Measurement System "NIPO Patent

Engineering and Academic Work Experience

Assistant Lecturer

*Department of Electrical and Electronic Engineering, Faculty of Engineering,
University of Jaffna-Sri Lanka*

17/10/ 2022-Present

Visiting Lecturer

*Department of Computing and Technology, University of Kelaniya-Sri Lanka
Subject-Advanced Computer Communication and Networking*

02/26/ 2022-Present

Visiting Lecturer

02/26/ 2022-Present

Department of Computer Science, University of Kelaniya-Sri Lanka

Subject-Advanced Computer Data Networks

Electrical Design Engineer

08/18/2021 – 31/10/2022

*Fimcen (Pvt) Ltd- [Schneider Electric-Australia]**32 Caledonian Avenue, Winston Hills, New South Wales, Australia*

- Responsibilities include interface with Australian clients, estimations and designing
- Schneider Electric Australia-Electrical Design Projects

Temporary Instructor (RF and Microwave lab)

02/01/2021 – 08/18/ 2021

Department of Electrical and Electronic Engineering, Faculty of Engineering, University of Jaffna

- Responsibilities include demonstrating practical sessions, conducting tutorial classes, assess student assignments and lab reports.
- Subjects: - Electromagnetic Engineering, Optical Communication, Analogue and Digital communication, Electronics and Telecommunications, Wireless and Mobile Communications.

Trainee Engineer

02/24/ 2020 –07/31/ 2020

Resource Management Associates (Pvt) Ltd, Colombo 03, Sri Lanka

- Electrical installation, planning and designing, Priced BOQ and load estimations
- AutoCAD / PSSE /SAM /Power Factory- Power Systems modelling and analyzing
- Literature review on "Lightning Related Effects in The Neighbourhood of Transmission Lines and Telecommunication Towers"
- Literature review on "LNG Gas Extraction to End User Applications"
- 100MW wind power plant visit- (construction stage)

Research Intern (Power System and Smart Grid Lab)

01/2019–04/2019

Indian Institute of Technology Gandhinagar (IITGN), Gujarat, India

- Project on "DC Microgrid Simulation and Experimental Validation"
- OPAL-RT Simulator/MATLAB simulation

Research Experience**IoT-based Portable Emission Measurement System | Embedded Sensors, Android, Cloud, IoT and C programming***Undergraduate, University of Jaffna - [Final Year Research Project]*

2020-2021

- Advisors: Dr. M.K. Ahilan and Eng. Mr. R. Valluvan
- The goal of this research project was to develop a tiny device to measure vehicle emissions directly at the point of requirement irrespective of place and time.
- WIPO PCT and National Patent (WO 2022/185119 A1)

Wireless Keyboard Glove for Personal Computers and Smartphone Applications | Electronics, C Programming and Java*Undergraduate, University of Jaffna*

2019

- Advisors: Dr. Ravi Wijesiriwardana
- The goal of this research project was to develop a wearable glove keyboard which can enter information into personal computers and smartphone devices and this device functions as a typical QWERTY keyboard. The conductive fabric has been used as the medium for conducting.

DC Microgrid Simulation and Experimental Validation | MATLAB Simulink, RT Lab, OPAL-RT and Electronics

Research Intern, Indian Institute of Technology Gandhinagar (IITGN), Gujarat, India

01/2019–04/2019

- Advisors: Associate Professor Naran M. Pindoriya
- Designed controllers for MPPT and Battery Energy Management system for DC-microgrid and real-time implementation.

Undergraduate Projects

SCADA Based Control System Design and Data Acquisition | Genisys Protocol, GUI Designing, Python

Undergraduate, University of Jaffna

2020

- Advisors: Lecturer. Mr. R. Muralitharan
- Designed a SCADA-based automatic control system. Genisys protocol was implemented for the communication between CCS and RTU using TCP socket. (Over Ethernet)

Design A/D Converter for Low-Frequency Signals | Electronics

Undergraduate, University of Jaffna

2020

- Advisors: Prof. T. Thiruvaran
- Designed an A/D Converter for small signals (0-30Hz), Considering noise due to aliasing kept lower than the quantization noise. Any distortion within the given bandwidth is also kept lower than the quantization noise while minimizing the bit rate. Filter design and implementation.

Digital System Design for A Guessing System Using FPGA | Verilog, I/O interfacing

Undergraduate, University of Jaffna

2021

- Advisors: Lecturer. Mr. R. Muralitharan
- The system was developed using verilog and by interfacing 4x4 keyboard with FPGA board.

Control Strategy for Under Frequency Load Shedding Scheme for A Power System with Renewable Sources | MATLAB Simulink, PID Controllers

Undergraduate, University of Jaffna

2021

- Advisors: Lecturer Mr. Rajan
- Developed a control strategy to perform low-frequency load shedding which ejects and reconnects the loads on a priority basis when a load generation mismatch occurs due to the change in the generation of the wind power plant according to the intermittent nature of the renewable energy resource.

Optimum Power Sharing Method for DC Microgrid | MATLAB Simulink

Undergraduate, University of Jaffna

2020

- Advisors: Lecturer Mr R. Rajan, Lecturer. Ms. S. Vinothine
- Developed a control strategy to achieve the optimum power-sharing method for a DC microgrid. Conventional and adaptive droop control strategies have been compared through this project.

Smart Agriculture Monitoring System | Embedded Sensors, Cloud, WiFi

Undergraduate, University of Jaffna

2019

- Advisors: Lecturer. Mr. R. Muralitharan
- Smart agricultural monitoring system which can collect crucial agricultural data and send it to a cloud in real time where the data can be logged and analyzed. Based on the data, it can actuate necessary actuators to keep the

LAN Development for The Faculty Premises | GNS3 and Packet Tracer

Undergraduate, University of Jaffna

2018

- Advisors: Dr. A. Kaneswaran
- Designed network architecture (3-tier network) for the faculty premises. IPv4 address allocation, ACL, servers including printer, DHCP, DNS and dynamic routing protocols (EIGRP)

Industrial Projects (Undergraduate period)

Electrical Design for Three Story Building of Maris Stella College, Negombo, SL | (RMA (Pvt) Ltd)

2020

Designing distribution system, conduiting, electrical design, priced BOQ, and load estimation. approved the design for construction.

Rehabilitation of Electrical Distribution Systems at Good Shepherd Convent, Nayakakanda, Hendala, SL | (RMA (Pvt) Ltd)

2020

Redesigning distribution system, conduiting, electrical design, RCD and earthing tests and inspections.

Electrical Design of Maris Stella College, Negombo, SL | (RMA (Pvt) Ltd)

2020

Final testing work, Earth resistance testing of remaining distribution network, checking completed drawings, preparation of the master file to hand over to the college.

Professional Affiliation

- | | |
|--|--------------|
| • Vice- Secretary of Jaffna Engineering faculty Alumni Association (JEFFA) | 2022-Present |
| • Member of IEEE | 2021-Present |
| • Membership of Engineering Council Sri Lanka (ECSL) | 2021-Present |
| • Associate Member of Institute of Engineers Sri Lanka (IESL) | 2021-Present |
| • Member of Jaffna Engineering faculty Alumni Association (JEFFA) | 2021-Present |
| • Student Member of IEEE | 2018-2021 |
| • Student Member of IESL | 2016-2021 |

Extra-Curricular Activities

Clubs and Societies

- | | |
|---|-----------|
| • President of EEES University of Jaffna | 2020-2021 |
| • Vice-Chair IEEE PES chapter University of Jaffna | 2019-2020 |
| • Ithika-Member of the Ithika public speaking club of FOE UOJ | 2019-2021 |

Sports

- Cricket, Badminton and Carrom

Skills

Languages: English (full professional proficiency,), Sinhala (native proficiency), Tamil (Beginner)

Programming: Python, MATLAB, C++, Linux

Refrees

Prof. Tharmarajah Thiruvaran
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