Jameel Hassan Abdul Samadh

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Jameelhassan.github.io
Linkedin

Education

University of Peradeniya, Sri Lanka
BSc Engineering (Hons)- July 2020
Electrical & Electronic Engineering
2nd Class Upper - *CGPA 3.61/4.0*

Trinity College Kandy, Sri Lanka
4As Physical Science stream (2014)

Technical Skills

Python, MATLAB, Optimisation, C, Git
Eagle, ArduinoC, Assembly Language

Interests

Autonomous Systems, Machine Learning,
Computer Vision, Signal Processing

Experience

Research Engineer, Faculty of Engineering, University of Peradeniya — **August 2020 - Present**
Computer Vision, Smart Grid, Optimisation

- Designing a computer vision framework to detect people, human interactions and other threat parameters for COVID-19 to identify social distancing violations and thereby provide a threat level assessment of the given scene.
- Centralised Active, Reactive power control to minimise voltage violations due to PV penetration in the Low Voltage grid using sensitivity analysis and optimization.

Engineering Intern, Vega Innovations, Sri Lanka — **Feb 2019 - May 2019**
Eagle, PowerSim

Role: Testing and troubleshooting the power module for electric vehicle fast charging unit, Designed the wiring circuit for a hydroponics rack

- Carried out tests for the electric vehicle fast charging power module.
- Completed the wiring design for the hydroponics rack used for smart plant growth.

Volunteer Instructor, Faculty of Engineering, University of Peradeniya — **Feb 2020 - July 2020**
Probability & Statistics - Introd. to Electrical Engineering: *For 1st year UG*

Publications

[J]: Journal **[C] : Conference** **[NP] : Non Peer reviewed**

- **A. S. Jameel Hassan***, Umar Marikkar*, G.W. Kasun Prabath, Aranee Balachandran, W.G. Chaminda Bandara, Roshan I. Godaliyadda, Parakrama B. Ekanayake, Janaka B. Ekanayake, "*A Sensitivity Matrix approach for Centralized Active Reactive Power Management of PV Systems integrated LV network*", Energies, MDPI **[J]**
  - **Under Review**

- Umar Marikkar, **A. S. Jameel Hassan**, Mihitha S. Maithripala, Roshan I. Godaliyadda, Parakrama B. Ekanayake and Janaka B. Ekanayake, "*Modified Auto Regressive Technique for Univariate Time Series Prediction of Solar Irradiance*", 2020 15th IEEE International Conference on Industrial and Information Systems (ICIIS). **[C]**
  - Published

- Gihan Jayatilaka*, **Jameel Hassan*** et al. "*Use of Artificial Intelligence on spatio-temporal data to generate insights during COVID-19 pandemic: A Review*"
  MedRxiv **[NP]**

- Gihan Jayatilaka, **A. S. Jameel Hassan**, Suren Sritharan, Roshan Godaliyadda, Parakrama Ekanayake, Vijitha Herath, Janaka Ekanayake, "*Utilizing temporal graphs to improve computer vision-based social distance monitoring*". Sustainable Cities & Society Journal, Elsevier **[J]**
  - Under Review

- **A. S. Jameel Hassan**, Gihan Jayatilaka, Suren Sritharan, Roshan Godaliyadda, Parakrama Ekanayake, Vijitha Herath, Janaka Ekanayake, "*Hands Off: A Handshake Interaction Detection and Localization Model for COVID-19 Threat Control*". 2021 16th IEEE International Conference on Industrial and Information Systems (ICIIS). **[C]**
- **Under Review**

Researches & Projects

Undergraduate Research Project, University of Peradeniya — **June 2019 - June 2020**

Smoothing the Output of a Large number of small scale Renewables

Machine Learning, Signal Processing

Tools & Tech: MATLAB, Python, Convex optimisation, Autoregression, Neural networks, Fuzzy logic
Role: Optimisation of the power distribution, Design and coding of algorithm, Classification of day type using fuzzy logic

- Designed an optimised scheduling and control algorithm to predict the power outputs of the stochastic renewable systems such as solar and wind plants.
- The net output power is aggregated to supply a load demand from a specific energy market.

Smart headphone, Engineering Product design — **November 2018**

Eagle, ArduinoC, ATTiny13

- Designed a smart headphone that automatically responds to haptic sensor feedback. An Attiny13 microcontroller was used, which was programmed using Arduino Uno.

Automatic Light Controller, Embedded Systems Design — **June 2018**

Assembly language, PIC

- Designed an automatic light controller which keeps count of people within a room to switch ON/OFF the lights. A PIC16f84A programmed using assembly language was used to control the lights.

Color sensing Robot arm, Electronic Instrumentation — **June 2017**

Arduino Uno, Arduino C

- Designed a color sensing robotic arm that picks and places the object in predefined locations based on the color of the object. Video

Awards & Competitions

- GCE A/L Best results Trinity College Kandy, Sri Lanka 2014 - 3As
- Finalist of *Eng. EW Karunarathne Award for the Best Undergraduate Project in Electrical Engineering*. Organised by Institute of Engineers, Sri Lanka (IESL).
- Finalist of *IntelliHack 2019 - Machine Learning Hackathon* organised by IEEECS University of Colombo School of Computing (UCSC).
- Finalist of "I*nternational Energy and Electricity Market Business Decision Simulation Competition 2019*" organised by Shanghai University of Electric Power. *One of the three teams representing Sri Lanka.*

Extra Curricular Activities

Global Shaper- Kandy Hub, Under World Economic Forum (Mar 2020 - Sep 2020)

Nenathambara, Volunteer- Coding for all, Creating exercises and content translation

Basketball, University of Peradeniya. Sri Lanka (2018)

Drama Society, University of Peradeniya. Sri Lanka (2016 - 2018)

Football, Trinity College Kandy. Sri Lanka (1st XI - 2012-2014)

School Officer(Prefect), Trinity College Kandy, Sri Lanka (2013/2014)

Referees

Prof. Janaka Ekanayake (Thesis Supervisor)
BSc.Eng, PhD(UMIST), CEng, FIEEE, FIET, FIESL
Chair Professor, Department of Electrical & Electronic Engineering,
Faculty of Engineering, University of Peradeniya.
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Dr. Roshan Godaliyadda (Thesis Supervisor)
BSc. Eng, PhD(NUS), MIEEE, MIESL
Senior Lecturer, Department of Electrical & Electronic Engineering
Faculty of Engineering, University of Peradeniya, Sri Lanka.
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