

# Jameel Hassan Abdul Samadh

[jameelhassan.github.io](https://jameelhassan.github.io)

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## Education

**University of Peradeniya, Sri Lanka**  
BSc Engineering (Hons)- July 2020  
Electrical & Electronics - CGPA 3.61/4.0

**Trinity College Kandy, Sri Lanka**  
3As Physical Science stream.  
Graduated 2014

## Technical Skills

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

## Interests

**Robotics, Embedded Systems,  
Computer Vision, Machine Learning**

## Experience

**Research Engineer, Faculty of Engineering, University of Peradeniya** August 2020 - Present

Computer Vision, Smart Grid, Optimisation

- Research on the identification of contact hot spots using CCTV footage using depth estimation and motion tracking. The research is primarily focused as an aid to tackle Covid-19 contact spreads using computer vision.
- Centralised Active, Reactive power control to minimise voltage violations in the Low Voltage grid using sensitivity analysis.

**Engineering Intern, Vega Innovations, Sri Lanka**

Feb 2019 - May 2019

Eagle, PowerSim

**Role:** Tested the power module for electric vehicle 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

- Introduction to Electrical Engineering: *For 1st year undergraduates*

## Publications

- Umar Marikkar, **A. S. Jameel Hassan**, 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", International Journal of Electrical Power & Energy Systems, Elsevier.  
- 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).  
- [Published](#)
- Gihan Jayatilaka\*, **Jameel Hassan\***, Umar Marikkar, Rumali Perera, Suren Sritharan, Harshana Weligampola, Mevan Ekanayake, Roshan Godaliyadda, Parakrama Ekanayake, Vijitha Herath, G.M. Dilshan Godaliyadda, Anuruddhika Rathnayake, Samath Dharmaratne, Janaka Ekanayake, "Use of Artificial Intelligence on spatio-temporal data to generate insights during COVID-19 pandemic: A Review", [MedRxiv](#)

# 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 Karunaratne 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 "International 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)

**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)