# Sa'aadat **Shafeeq Lone**

saaadatlone@gmail.com | +60192667161 | Cyberjaya, Malaysia | www.saaadat.herokuapp.com

## Skills

**Programming:** Python, C/C++, JavaScript, Bash, Assembly, Matlab
**Analytics:** IPython, SQL, R
**Web:** Express/NodeJS, Flask, React, Git
**GUI:** QT, Electron, TKinter, Processing, WinForm
**CAD:** Solidworks, Catia, Autodesk, Eagle, Altium
**Others:** ROS, Embedded Systems, Algorithms, Sensor Fusion, Circuit Design, PCB Fabrication
**Interests:** Reinforcement Learning, Mobile and Aerial Robotics, Autonomous Flights, Deep Learning
**Deep Learning Frameworks:** Tensorflow, Pytorch, Keras, Fastai
**Cloud Computing Services:** Google Cloud Platform, AWS, IBM Cloud

## Work Experience

**Vortex Edge Sdn Bhd** *Cyberjaya, Malaysia*
Embedded Systems Design Engineer *Jul 2017 – Present*
- Developed Hotspot detection software that has been tested to detect a fire at 100 feet altitude.
- Developed Aircraft Tracking Systems to ensure live video feed retains quality.
- Developed a live video transmission from the UAV that can be streamed over the internet.
- Developed GCS software to communicate with UAV.
- Connected UAV via 4g with 99% RSSI.
- Designing Johar 2.0 Autopilot.
- Developing Facial Recognition Software for UAV using deep learning.
- Build a Neural Network Model to replace PID control using real flight data.
- Familar with APM 2.8, Pixhawk 2.1, CUAV, Paparazzi UAV, LibrePilot/OpenPilot.
- Worked with Fixed Wing, Quadcopter, Hexacopter, Tailsitter VTOL, R-15 USA VTOL
- Senior Developer Since July 2018, Team Lead since January 2019.

**IIUM** *Selangor, Malaysia*
Teaching Assistant *Sept 2015 – Dec 2015*
- Delivered lectures for the course "Design of Machine Elements".
- Prepared Lecture for approximately 40 students.
- Went through questions to prepare them for mid-term and final examination.
- Helped students with their Class Project.

**Ideasparq Robotics Sdn Bhd** *Selangor, Malaysia*
R&D Engineer Intern *Jun 2015 – Aug 2015*
- Worked on enhancing current Automated Guided Vehicle Hardware and Software.
- Worked on circuit board of the AGV using Eagle.
- Tested Lidar and Magnetic Sensor.
- Tested various Brushless DC Motor.
- Designed a method to dock AGV to charge Battery autonomously.
- Designed and tested surge protector circuit.

## Education

**International Islamic University Malaysia** *Selangor, Malaysia*
Masters of Science in Mechatronics *Sept 2016 – Jan 2019*
GPA: 3.67 - Thesis: Path Planning Algorithms for Automated Guided Vehicles (AGVs)

**International Islamic University Malaysia** *Selangor, Malaysia*
Bachelor of Engineering in Mechatronics *Sept 2012 – Sept 2016*
GPA: 3.591 - Thesis: Soft Pneumatic Exoskeleton for Wrist and thumb Rehabilitation

**International Islamic University Malaysia** *Petaling Jaya, Malaysia*
Foundation in Physical Science *Sept 2010 – Sept 2012*

# Projects

### Virtual Grid and Localisation Using Aruco Markers

*Python, OpenCV*

Built a virtual grid over webcam feed to eliminate the installation of any grid for robotics navigation in factories and localizes every robot in range of interest.

### Robot Path Planning A* and Dijkstra

*Python, RViz, ROS*

Generated optimal robot paths using A* and Dijkstra's algorithm to move from point A to point B.

### Bio Composter

*C++, Arduino, Solidwork*

IIUM's First pilot project where I Worked with a team of 25 engineers to design and develop a portable bio composter that speeds us the process of composting food using microorganisms.

### MAVEC 2019 Hackathon 1st Runner Up

*Python, C++, ROS, Tensorflow, SLAM*

First Autonomous Driving Competition in Malaysia using Turtlebot3 kit.

*http://mavec19.saemalaysia.org.my/*

### Google Cloud Next Extended 19 Kuala Lumpur

*Python, Java, jMavSim, DJI Tello SDK, Google Cloud Vision API, Google Cloud Storage*

Gave a talk on Drones and why the matter.

*https://next-extended-19.peatix.com/*

### NASA Space App Challenge KL

*Python, Flask, Tensorflow, Javascript, Bulma*

Used NASA's API to get data of temperatures around the world and trained our deep learning model to predict potential fires happening in Sarawak, Sabah and KL, Made it to top 8 out of 200 teams.

*https://www.spaceappsmy.com/*

### REKATHON 2017

*C++, Javascript, Google Map API, Telegram Bot, PHP, NodeMCU*

Developed a SOS Emergency System for cars.

*https://reka.com.my/*

### Face Hack 2017

*Python, PHP, Javascript, Android Studio, Tensorflow*

Developed a Smart Advertising System that displays advertisements based on the demography within the area, got 4th place with a total of 32 teams.

*https://face2017.peatix.com/?lang=en-my*