

## EDUCATION

### National University of Singapore (NUS)

*M.Sc. in Electrical Engineering with Specialization in Control & Automation*

Advanced Robotics, Neural Networks, Modelling & Planning of Mechatronic Systems, Selected Topics in Industrial Control & Instrumentation, Linear Systems, Computer Control Systems, Special Topics in Automation & Control and Creativity & Innovation

**Expected Year of Completion: 2020**

### Manipal Academy of Higher Education, Dubai

*B.Tech in Mechatronics Engineering; Minor Specialization in Robotics and Automation*

**Sep 2014 - Jun 2018**

(GPA - 9.83/10)

### Delhi Private School, Dubai (CBSE)

*Grade XII Board Exams, Science with Biology - 83%*

**Sep 2004 - Apr 2014**

## EXPERIENCE

### Graduate Student Researcher, National University of Singapore

**May 2019 - Present**

- Conducting research on path planning schemes and implementing them on industrial manipulators and mobile robots.

### Aircraft Maintenance Intern, Emirates Aviation Services, L.L.C, Dubai

**Jul 2016**

- Hands-on experience of the maintenance cycle for various parts within Piper PA-28-161 & Cessna 172S Aircraft.
- Worked on removal, inspection and installation of the propeller, main gear oleo strut, landing gear & carburetor.
- Gained understanding on the overall functioning of an aircraft including the ignition system and navigation system.
- Familiar with the pre-flight inspection procedure to prevent any mishaps.

## PROJECTS

### Intelligent Path Planning for Robot Manipulators (NUS, Singapore)

**Feb 2019 - Present**

- Relevant kinematic and dynamic equations needed to compute the position and orientation of a manipulator are being generated; these are to be applied on industrial manipulators to study its path from the initial position to final position.
- The model is being developed in MATLAB/SIMULINK and several robot path planning schemes will be implemented while keeping in mind redundant robotic manipulators, with the results of each generated.

### Vision Based Autonomous Assistance Robot using LabVIEW (MAHE, Dubai - Final Year Project)

**Feb 2018 - Jun 2018**

- Led a team of 4 to build a user-driven robot that provided directions to different labs & classes in MAHE, Dubai.
- Designed the program on LabVIEW, using a myRIO evaluation board & developed a face detection algorithm to identify the user. Integrated the voice commands & motor control for giving directions.

### Bio mimicking a Pectoral Fin using PID Controller (MAHE, Dubai)

**Mar 2017 - May 2017**

- Studied movements of a Manta Ray to Bio mimic the motion of its fin.
- One half of Manta Ray's flexible pectoral fins were created with silicone rubber and this was then driven by servo motors to complete the oscillation. A PID controller was created in LabVIEW for this project.

## TRAINING

### Post Graduate Diploma in Industrial Automation (Prolific Systems & Technologies, Baroda, India)

**Aug 2017 - Sep 2017**

PLC – Allen Bradley, Siemens, GE-Fanuc, Modicon, Mitsubishi, SCADA – Wonderware Intouch, DCS - ABB, Drives, HMI, Wireless/GSM Technology and Panel Wiring

## CERTIFICATIONS

- Autodesk Fusion 360 Integrated CAD/CAM/CAE- Coursera **Dec 2018**
- Python Data Representations - Coursera **Dec 2018**
- Python Data Analysis - Coursera **Dec 2018**
- Python Programming Essentials - Coursera **Nov 2018**
- Machine Learning Foundations: A Case Study Approach - Coursera **May 2018**

## PUBLICATIONS

Royson.D, Anil.S, Marian.J & Gautami.G, **Damage Inspection & Online Monitoring: A Comparative Study between Aluminium & Composite Plate Structures**, IOP Conference Series: Materials Science & Engineering, Vol. 22, 2018

## TECHNICAL SKILLS

**Programming:** Python, MATLAB/SIMULINK & Arduino

**Computing Software:** LabVIEW, Wonderware Intouch & PLC

**CAD:** Pro-E/Creo & Solidworks

**Prototyping:** 3D Printing

**Other:** LaTeX & MS Office

## AWARDS/SCHOLARSHIPS

**Academic Topper (Certificate of Merit)** - Manipal Academy of Higher Education, Dubai for the Academic Years 2015-2018.

**Best Player in Women's Cricket** - Manipal Academy of Higher Education, Dubai for the year 2015-2016.

**Awarded Certificate of Merit for Showing Exemplary Performance in Sports** - DPS, Dubai from 2010 - 2012.

## PROFESSIONAL ASSOCIATIONS

IEEE Graduate Student Member

IEEE Robotics & Automation Society (RAS) Member