Walter TAY Ann Lee

waltertay.com | waltertay@u.nus.edu | +65 9868 6218

EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE (NUS)

BEng in Mechanical Engineering
University Scholars Programme
Cumulative Average Point: 4.38 / 5.00
Expected Graduation: July 2020

SKILLS

PROGRAMMING

Python • TensorFlow • MATLAB
Arduino • C • fastai
VBA • SQL • Git • LaTeX

LANGUAGES

English (IELTS 8.5)
Malay (STPM 4.0 GPA)
Chinese (Intermediate)
Hokkien • Teochew

HARD SKILLS

Mechatronic Systems
Feedback Control Systems
Solidworks 3D CAD
Circuit Design
HVAC and Chiller systems

SOFT SKILLS

Active Listening
Effective Communication
Ability to Clarify and Paraphrase
Motivated • Detail Oriented
Risk Taker • Team Player

AWARDS

2019 USP Senior Honour Roll
2018 USP Honour Roll
2016 ASEAN Undergraduate Scholarship
(Bond-Free)

COURSEWORK

Project Management (Microsoft Project)
Mechanical Systems Design
Manufacturing Processes
Automation in Manufacturing
Standards in Mechanical Engineering

PROJECTS

DEEP REINFORCEMENT LEARNING FOR MAPLESS NAVIGATION | Final Year Project

Aug 2019 – Current | Singapore
Developed algorithms for end-to-end training of deep neural network policies that combine perception and control. Deep RL methods were implemented with Tensorflow and robots were trained in the ROS Stage robot simulator.

AUTOMATED MOBILE GANGWAY | PSA Marine Project

Aug 2019 – December 2019 | Singapore
Awarded SGD 1000 to design, construct, and troubleshoot a compact and reliable electrical and software system for an Automated Mobile Gangway, saving the company's bottom line by about SGD 19,000.

FINITE ELEMENT SOFTWARE DESIGN | Bilkent University

Jan 2019 – May 2019 | Ankara, Turkey
Designed mesh-generation, assembly, post-processing algorithms and GUI in MATLAB and obtained top scores overseas for both thermal and stress analyses.

EXPERIENCE

ROBERT BOSCH SEA PTE LTD | IoT Research Intern

July 2018 - Dec 2018 | Singapore

- Developed hardware and experiments for evaluating pressure/ultrasonic/TVOC/TOF sensors, leading to the fabrication of 2000+ prototypes by partners in Tokyo and Shanghai
- Designed algorithms for automating IoT data analysis, leading to cost savings of up to SGD 7,200
- Strictly adhered to safety guidelines while handling potentially carcinogenic substances according to ISO 12103-1 filter evaluation standards

UNIVERSITY SCHOLARS PROGRAMME | Student

Aug 2016 – Current | Singapore

- Implemented a quantum search algorithm ($O(\sqrt{n})$ for unordered dataset) on the IBM-Q quantum computer
- Analyzed 23 peer-reviewed papers and applied logistic regression to test the Democratic Peace Theory with the Correlates of War (COW) dataset
- Conducted interviews, participant-observation, and qualitative analysis in 3 languages to study the relationship between linguistic relativity and working memory perception
- Dissected a brain and explored a physiological, cultural, and technological approach to the study of human perception and consciousness

CULTURAL ACTIVITIES CLUB | Social and Welfare Director

Aug 2017 – Aug 2018 | Singapore

- Directed internal projects within the Cultural Activities Club (CAC) leading to greater bonding between CAC's 12 Sub-Clubs
- Performer and breakdancer of CAC+US 2018/2017, Infusion 2018, and Ascendance 2017
- Emcee for 9 major NUS events: NUSSU Student Life Fair 2017, USP Exchange Student Events 2017/2016, CAC Appreciation Night 2017/2018, CAC Annual Retreat 2016/2017, MSL Appreciation Night 2016/2017.