Walter TAY Ann Lee

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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 • ROS
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
Aug 2019 – Current | Singapore
Engineered Deep Q-Networks and the Deep Deterministic Policy Gradient algorithm for end-to-end training of a robot in a ROS simulation. This allowed the robot to learn mapless navigation capabilities without existing sample data or explicit programming.

AMG ELECTRICAL AND SOFTWARE DESIGN | PSA Marine Pte Ltd
Aug 2019 – December 2019 | Singapore
Designed a compact and reliable electrical and software system for an Automated Mobile Gangway (AMG) prototype using Arduino and EDA, saving the company's bottom line by up to SGD 19,000.

FINITE ELEMENT SOFTWARE DESIGN | Bilkent University
Jan 2019 – May 2019 | Ankara, Turkey
Designed mesh-generation, assembly, post-processing algorithms and a GUI in MATLAB, leading to top results overseas for both thermal and stress analyses.

EXPERIENCE

IOT R&D INTERN | Robert Bosch SEA Pte Ltd
July 2018 - Dec 2018 | Singapore
- Developed hardware and experiments for evaluating pressure, ultrasonic, TVOC, and 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

SCHOLAR | University Scholars Programme
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 analyses in Chinese, English, and Malay 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

SOCIAL AND WELFARE DIRECTOR | Cultural Activities Club
Aug 2017 – Aug 2018 | Singapore
- Directed internal projects for up to 100 student leaders, 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, CAC Appreciation Night 2018 & 2017, CAC Annual Retreat 2017 & 2016, USP Exchange Student Events 2017 & 2016, MSL Appreciation Night 2017 & 2016.