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: June 2020

SKILLS

PROGRAMMING
Experienced:
Python • C • TensorFlow
MATLAB • Arduino • LaTeX • VBA
Familiar:
Ruby • SQL • ROS

LANGUAGES
English (IELTS 8.5)
Malay (STPM 4.0 GPA)
Chinese (9 Years Formal Ed.)
Hokkien • Teochew

HARD SKILLS
Algorithms and Data Structures
Dynamic Programming
Machine Learning
Mechatronic Systems
Feedback Control 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
Designed Deep Q-Networks and implemented 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 of its motion.

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 sensor data analyses, 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
- Managed sponsor acknowledgements and event flow as emcee for 9 major NUS events including the NUSSU Student Life Fair 2017
- Performer and breakdancer of CAC+US 2018 & 2017, Infusion 2018, and Ascendance 2017