

# Walter TAY Ann Lee

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## EDUCATION

### NATIONAL UNIVERSITY OF SINGAPORE (NUS)

BENG IN MECHANICAL ENGINEERING  
UNIVERSITY SCHOLARS PROGRAMME  
Cumulative Average Point: 4.35 / 5.00  
Expected Graduation: July 2020

### BILKENT UNIVERSITY

STUDENT EXCHANGE PROGRAMME  
Jan. 2019 - May 2019 | Ankara, Turkey

## AWARDS

2019 USP Senior Honour Roll  
2018 USP Honour Roll  
2016 ASEAN Undergraduate Scholarship  
2015 Top Scorer of National Chemistry Quiz  
2015 Gold Medal for Kangaroo Math Competition Malaysia  
2015 Top 95 in National Mathematics Olympiad

## COURSEWORK

### ENGINEERING

Deep Reinforcement Learning  
Finite Elements  
Mechatronic Systems  
Feedback Control Systems  
Materials for Engineers  
Manufacturing Processes  
Project Management (Microsoft Project)

### SCHOLARS PROGRAMME

Quantum Computation  
Language, Cognition, and Culture  
Mathematics and Reality  
Brain and Behaviour  
Cultures, Civilizations, and Ideas  
War and Democracy  
Issues In and Around Justice

## SKILLS

### PROGRAMMING

Python • TensorFlow • Arduino •  
MATLAB • fastai • C • Excel VBA

### LANGUAGES

English (Fluent) • Malay (Intermediate) •  
Chinese (Intermediate)

### INTERESTS

Meeting new people • weightlifting •  
bartending • reading • video games

## PROJECTS

### DEEP REINFORCEMENT LEARNING FOR MAPLESS NAVIGATION | FINAL YEAR PROJECT

Aug 2019 - Current | Singapore  
Trained neural networks for mapless navigation in a simulation and transferred the networks to a real robot (TurtleBot2) for testing under the supervision of **Dr. Zhang Yunfeng**. Tools and libraries used include Tensorflow, Gazebo, ROS Stage, OpenAI Gym, and OpenAI SpinningUp.

### AUTOMATED MOBILE GANGWAY | PSA MARINE PROJECT

Aug 2019 - December 2019 | Singapore  
Designed, constructed, and troubleshooted a compact and reliable electrical and software system for an **Automated Mobile Gangway** under the supervision of **Dr. Peter Chen**.

### FINITE ELEMENT PACKAGE DESIGN | GROUP PROJECT

Jan 2019 - May 2019 | Ankara, Turkey  
Designed a **mini-FE package** in MATLAB to study the displacement, strain, and stress distribution for a two-dimensional rectangular domain with a circular void in the middle under the supervision of **Dr. Ali Javili**.

## EXPERIENCE

### ROBERT BOSCH SEA PTE LTD | CORPORATE RESEARCH INTERN

July 2018 - Dec 2018 | Singapore

- Automated the analysis of IoT testbench experiment data, saving 5 hours of work time per day
- Developed hardware for evaluating commercially available sensors (i.e. pressure/ultrasonic/TVOC/TOF sensors) using Arduino
- Conducted experiments to study sensor output from filters at different contamination levels and recommended the most promising sensing principle under the supervision of **Dr. Soon Hwee Ping**.

### UNIVERSITY SCHOLARS PROGRAMME | STUDENT

Aug 2016 - Current | Singapore

- Implemented Grover's (1996) Quantum Search Algorithm using IBM's quantum computer
- Conducted statistical testing of the Democratic Peace Theory with a logistic regression model of war data
- Collected data to study the relationship between linguistic relativity and working memory perception
- Dissected a brain and explored a physiological approach to the study of human consciousness.

### CULTURAL ACTIVITIES CLUB | SOCIAL AND WELFARE DIRECTOR

Aug 2017 - Aug 2018 | Singapore

- Directed internal projects within the Cultural Activities Club (CAC) such as CAC's Appreciation Night 2018 and CAC's Annual Retreat leading to greater bonding between CAC's 12 Sub-Clubs.
- Performer and breakdancer of CAC+US 2018/2017 (NUS CAC's largest annual music and dance concert), 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.