Emily Fatima Yunan

m150097@e.ntu.edu.sg

EDUCATION

Nanyang Technological University (NTU), Singapore   Aug 2015 - Jun 2019 (Expected)

Bachelor of Engineering (Mechanical Engineering) | Specialization: Robotics and Mechatronics

CGPA: 4.91/5.00 | Dean's List AY2015/2016, AY2016/2017, AY2017/2018

Temasek Junior College, Singapore   Feb 2013 - Dec 2014

Distinctions in all 8 subjects taken in the 2014 A-level Examinations

AWARDS

2015-2019, ASEAN Undergraduate Scholarship & CN Yang Scholars Programme

2015, School of MAE Chair's Award

2014, Ang Keong Lan trophy for best Science student in graduating class of 2014

2011-2014, Singapore Ministry of Education School-based Scholarship

ACADEMIC PROJECTS

M.E.C.A.tron, NTU   Feb - July 2017

- Programmed an autonomous UGV with the inverse kinematics of the mecanum wheels and turret yawing and pitching control for visual servoing
- Participated in DJI RoboMasters international competition and clinched 2nd place in the knockout round

Making and Tinkering @ Garage, NTU   May - July 2017

- Principal programmer in developing a kinetic table as part of a team
- Employed mathematical models and computer vision in controlling movement of pins

Nanyang Venture Electric Cars, NTU   Aug 2016 - March 2017

- Programmed and implemented the torque vectoring system for yaw stability control of a car that improved the car efficiency by 8%
- Participated in Shell Eco-Marathon Asia as the team driver and won 6th place in the category for efficiency and 2nd place for safety

Temasek Junior College iPhone app, TJC Infocomm Club   Jun - Dec 2013

- Worked in a team in designing and coding the college official iPhone app

WORK EXPERIENCE

Engineering Intern, ST Engineering   Aug - Dec 2018

- Built an autonomous bus navigation simulation environment for vehicle speed and steering control from the surrounding occupancy grid
- Implemented deep reinforcement learning algorithms and neural network architectures as the agents and achieved collision-free lane keeping after training and hyperparameters tuning

MAE Peer tutor   Aug 2016 - Dec 2017

- Tutored other students in Mechanical Engineering courses
- Provided model solutions to past year papers

CPG Corporation, IT Division – IT Engineering Intern   Nov - Dec 2013
- Adapted the company's portal website to a mobile version and assisted in its implementation
- Reviewed and updated weekly articles on the company's portal

RESEARCH EXPERIENCE

Motion Planning and Control in Autonomous Drifting, CMU   Dec 2017 – Jul 2018
- Designed and assembled an RC car test platform capable of localization and autonomous navigation and developed a simulator with the car's measured parameters used in vehicle kinematics and tire dynamics equations
- Implemented motion planning and control algorithms for steady state drift cornering and evasive maneuver of dynamic obstacles under high speed

Biomechanical Study of Skin for Adhesion Diagnosis, NTU   Dec 2016 - May 2017
- Designed the experimental test rig and conducted experiments to diagnose adhesion caused by scar tissues through a rheological study of synthetic skin
- Processed and analyzed resulting data to study the effects of adhesion on the viscoelastic behavior of skin

Waste Heat Driven Adsorption and Desalination System, NTU   Dec 2015 - May 2016
- Conducted experiments to evaluate the waste heat driven adsorption chiller and desalination system performance in terms of cooling and water production
- Analyzed the resulting data to determine the optimum operating conditions in terms of temperature and cycle time

CO-CURRICULAR ACTIVITIES

NTU CN Yang Scholars' Club, Press & Publicity Assistant Director   Sep 2015 - Sep 2016
- Covered monthly club events through poster design, photo taking and post-event processing of photographs
- Managed club website and Facebook page

Earthlink NTU, Secretary of Recycling Subcommittee   Aug 2015 - Aug 2016
- Planned and organized recycling events such as biannual recycling drive, electronic waste campaign and inter-hall recycling competition
- Collected a total of 2.5 tons of recyclables from the recycling drive and reached out to 300 participants in the campaign
- Created two videos for event publicity and promotion of recycling to the NTU community

SKILLS

Microsoft Office	ROS
Programming (C/C++/Python)	SolidWorks
Machine Learning	MATLAB

LANGUAGES

English (fluent)	Chinese (conversational)
Indonesian (proficient)	Spanish (basic)