DEREN TEO

MECHATRONICS & MACHINE LEARNING GRADUATE

CONTACT

0490 517 568

teo.deren@icloud.com

in/derenteo

Brisbane, AU

EDUCATION

Bachelor of Engineering (Honours) / Bachelor of Computer Science

The University of Queensland

2019 - 2023

Mechatronic Engineering / Machine Learning

1st Class Honours (GPA 6.9)

SKILLS

Programming Languages
C, C++, Java, MATLAB, R, Python

Version Control
Git, GitHub, GitLab, SVN

CAD & PCB Design
Autodesk Fusion, Altium

3D Printing

Data Visualisation

Embedded Programming

Linux

Machine Learning

PLC Programming

Robot Operating System
ROS, ROS2

PROFILE

I'm a fresh mechatronics and machine learning graduate with a passion for creating innovative solutions to real-world problems. I'd describe myself as a dedicated lifelong learner, with key skills including Python, C++ and Linux. I believe in consistently pushing boundaries and delivering excellent results, and I'm always looking for opportunities to apply my knowledge in challenging and exciting roles in the robotics and automation industry.

WORK EXPERIENCE

Drone Engineer

Burl Aerospace Dec 2023 – Present

Developing a proof-of-concept for a novel point-to-point aerial transportation vehicle.

- Ground-up mechanical design of a novel, small-scale UAV, rapidly prototyped via 3D printing
- PCB design, simultaneously for electrical transmission and as a major structural feature
- Developing custom embedded C++ software on top of open source PX4 flight control software

Undergraduate Engineer

Universal Field Robots Nov 2022 – Feb 2023

Internship project on retrofitting an ATV with robotic gear and an autonomous driving stack for a pipeline inspection.

- Programming ROS2 software in C++ for communicating with hardware using CAN specification
- Integrating sensors (quadrature, IMU, LiDAR, radar and GPS) using EKF for sensor fusion
- Assessing the most suitable radar hardware for a new project, and coordinating with international suppliers to procure the radar
- Liaising with clients in mining automation to identify project direction and requirements

Vice Chair → Chair

IEEE UQ Student Branch Jul 2021 – Nov 2023

- Liaising with academics and industry professionals to organise on-campus events for students
- Building collaborative relationships with other UQ societies to promote IEEE to a diverse audience
- Participating in Queensland Section committee meetings to align goals with the broader IEEE community

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REFERENCES

Dr Pauline Pounds

Mechatronic Engineering Professor – The University of Queensland

pauline.pounds@uq.edu.au

Don Sands

Founder & CEO – Synengco

don.sands@synengco.com

WORK EXPERIENCE

Student Engineer

Synengco Nov 2019 – Nov 2023

Highly varied Python software development experiences, ranging from machine learning and data visualisation to code base optimisation.

- Building and testing Bayesian methods for supply chain modelling and optimisation
- Visualising big data from the monitoring of industrial assets
- Developing software aligned with the Open Industrial Interoperability Ecosystem (OIIE)
- Collaborating with major power generation clients to optimise their code base

HONOURS & AWARDS

2019 – 2023

- Dean's Commendation for Academic Excellence – All semesters

2023

- Les Dobson Memorial Prize for Best Systems & Software Engineering Project (Honours thesis)
- IEEE Queensland Section Student Thesis Prize – General Category
- Best Project in Avionics & UAV (Honours thesis)

2022

- Mechatronic System Design Project II (METR4810) trophy

2020

- Hawken Scholar (top 5% of undergraduate Engineering cohort)
- Prentice Scholar (top 5% of undergraduate Computer Science and Information Technology cohort)

2019

- Recipient of the Information Communications Technology (ICT) Excellence Scholarship
- Queensland Certificate of Education (QCE) Distinguished Academic Achiever Award