# 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, 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

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## 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