

MICHAEL THOREAU

Brisbane, Australia

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michaeltthoreau.github.io

EDUCATION

The University of Queensland

Graduated Dec 2017

Bachelor of Computer Engineering and Electrical Engineering

Bachelor of Computer Science

The Technical University of Munich

Winter Semester 2016

Exchange Semester

PRACTICAL SKILLS AND TOOLS

Software Engineering

Python, C, C++, MATLAB, Ada

ML and CV

Tensorflow, PyTorch, OpenCV

Design and Simulation

Solidworks, Diptrace, Simulink

Specialised Operating Systems

ROS, FreeRTOS

EXPERIENCE

CSIRO

July 2017 - Present

Engineer, Research

- Self-Supervised learning research (*PyTorch, Python, High-Performance Clusters*).
- Development of high accuracy pedestrian counting systems (*Machine Learning, Tensorflow, Object Tracking, Pedestrian Re-ID*).
- Generating obstacle maps from 3D LiDAR (*ROS, Point Cloud Processing*).
- Development of a distributed 3D vision system, real-time processing with 60 cameras (*C++, Computer Vision, Docker*).

The University of Queensland

March 2016 - July 2016

Tutor

- CSSE3010 'Embedded Systems Design and Interfacing' (*C, FreeRTOS*).
- Demonstrating, teaching, adding content to course materials.

CSIRO

July 2015 - August 2016

Honours Thesis Student and Intern

- Development of high-performance microphone array hardware for robotics (*PCB Design, Mixed Signal Instrumentation*).
- Development of FPGA based beamforming for Angle of Arrival Estimation (*VHDL, Linux Drivers*).

SwarmFarm - Robotic Agriculture Startup

June 2014

Mechatronics Placement

- Short placement, tracking control for a rear-wheel steering robot.

PUBLICATIONS

Improving Online Multiple Object tracking with Deep Metric Learning

Submitted, ICCV

HIGHLIGHTED COURSES

Course (institution)	Grade (1-7 equivalent)
Honours Thesis (UQ, CSIRO)	7
Satellite Communication Lab (TuM)	1+ (7)
Control Engineering 1 (UQ)	6
Real-Time Programming Languages (TuM)	1.7 (6)
Computational Physics (UQ)	6
Advanced Embedded Systems (UQ)	6

OTHER

European Student Earth Orbiter Project - TuM ground station

- Design, implementation, and testing of ground station vertical axis control software.
- Satellite successfully launched aboard a SpaceX Falcon 9 rocket, Dec 2018.

5kV high-energy plasma thruster experiment power supply

- Project with a friend at the International Space University (Strasbourg, France)
- Electronics Design, PCB Design

Australian Cyber-Security Challenge

- A competitive, 24hr, offensive computer security challenge with aspects of reverse engineering, web security and penetration testing.
- Ranked 16th out of 64 teams in Australia (1st in state).

Other Interests

- Photography, Hiking, Cycling, Student Pilot.