MICHAEL THOREAU

Brisbane, Australia

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EDUCATION

New York University	*Class of 2021*

Master of Electrical and Electronics Engineering

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 - January 2020

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

Deep Similarity Metric Learning for Real-Time Pedestrian Tracking	ACRA 2019

HIGHLIGHTED COURSES

Course (institution)	Grade (1-7 equivalent)
Honours Thesis (UQ, CSIRO)	7
Machine Learning (NYU)	A (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

NYU Rogue Aerospace - NASA Competition

- Electronics Lead.

- Apogee control drag system design.

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.

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, Cycling, Student Pilot.