

# Tom Manderson

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## Work Experience

### Polymathian

Developer Dec 2015–Present

- Diverse role including full stack web dev, system administration/DevOps, consulting, and recruiting
- Solely responsible for company-wide transition to deployment with Docker
- Developed an API for running tasks asynchronously in a distributed and concurrent environment, with transparent switching of execution models
- One of two developers on rearchitecture of core internal tooling to microservices

### University of Queensland

Tutor, Introduction to Software Engineering Feb–Nov 2015

- Modified Python's unit testing framework to provide student-friendly test results for assessment
- Developed masters-level components of assignments
- Awarded a prize for high performance evaluation by students tutored

### iLab Accelerator

Tech Intern, ModHub Nov 2014–Mar 2015

- Refitted GitLab (Ruby on Rails) for organisation-specific needs
- Contributed to development of a Microsoft Excel add-in in C#

## Volunteering

### UQ Computing Society (UQCS)

President 2015–2017

- Doubled membership year on year throughout presidency
- Ran annual hackathon with >100 attendees in both 2016 and 2017

### Robocup Junior Australia

Soccer Referee 2014, 2017, Head Referee 2015, 2016 Aug 2014–Sep 2017

- Responsible for technical and safety audit of robotic soccer robots, and refereeing of the top competition tier
- Contributor to development, maintenance, and system administration of competition management system

## Projects

### UQCS Projects and Infrastructure

Development, Operations, Python, Ruby, JavaScript,  $\LaTeX$  2015–2017

- Developed and maintained 6 public-facing, 1 infrastructure project for UQCS including build and deployment automation
- Sole developer on three Python/Flask based projects
- Still currently actively maintain/contribute to four projects

### Stable Matching for Dynamic Ride-Sharing Systems

Development, Mathematics, Python, Operations Research 2017

- Took an existing Operations Research paper and successfully improved performance by more than a factor of 3, which included improvements in both mathematical formulation and software characteristics
- Included linear programming, integer programming, dynamic programming, mathematical problem decomposition

### mypy Type Checker

Development, Python 2017

- Open source project: official type-checker for Python
- One of two contributors to metaclass type-checking capabilities

## Education

### University of Queensland

BE (Software)/BS (Mathematics) 2014–2019

- Awarded the "ICT Excellence Scholarship" 2014
- Participant in Enhanced Studies Program 2013

## Skills

- Python
- Haskell
- Java
- JavaScript
- C
- Bash
- Linux/Unix
- AWS
- Build systems
- CI/CD
- Operations research
- Abstract algebra
- Program verification
- System administration
- VCS (Git/SVN/Mercurial)
- Configuration management

## Presentations

### Introduction to Linux:

UQCS 2015

### AlphaGo and What It Meant for Us:

UQCS 2016

### Gradual Typing in Python:

PyCon Australia 2017

### Internet 101 for Programmers:

UQCS 2018

## Interests

- Type theory
- Cooking
- Rogaining
- Meditation
- Operations Research
- Functional programming