Omri Bornstein

Software Engineer

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Education

2017 2019	**South Australian Certificate of Education**, *Australian Science & Mathematics School* (ASMS), Adelaide
2020 Present	**Bachelor of Computer Science**, *Monash University*, Melbourne

Skills

- **Computer Programming Languages**: Go, TypeScript/JavaScript, Python, Kotlin/Java, C/C++
- **Document Markup Languages**: HTML/CSS, TEX/LaTEX, Markdown
- **Databases**: MongoDB
- **Tools**: Git, GitHub/GitLab, Docker, Kubernetes, CI/CD
- **Platforms**: Linux, Cloud Native, web servers/browsers, macOS, Windows
- **Soft Skills**: technical writing, presenting/public speaking, research, troubleshooting/debugging, explaining, collaboration/teamwork

Leadership Experience

May 2021 January 2022	**General Representative**, *Monash University's Cyber Security Club* (MonSec), Melbourne
January 2022 June 2022	**Secretary**, *Monash University's Cyber Security Club* (MonSec), Melbourne
June 2022 Present	**Vice President**, *Monash University's Cyber Security Club* (MonSec), Melbourne

Projects

Open-Source

- `cocainate` is a cross-platform re-implementation of the macOS utility `caffeinate` that keeps the screen turned on either until stopped, for a set duration of time or while another process still runs.
- `stalk` is a cross-platform file-watcher that can run a command after each file-system operation on a given files or simply wait once until a file is changed.
- `raker` is a social media scraper that is interfaced via a server-side rendered HTML user interface (or a CLI), and is managed by a REST API and a NoSQL database.
- scr-web (and its scr-cli counterpart) is my previous attempt at building a full-stack social media scraper with Angular on the front-end, and Nest on the back-end.
- sp is my first attempt at building a Minecraft server plugin. This plugin adds the requirement that the player supplies the password (via a server command) before proper server interaction is allowed, and as long as the password isn't provided, the currently-unauthorized player is blinded and immobile.

Research

August 2021 December 2021	**Software Contributor**, *Monash University's FIT2082 unit*, Melbourne
	 - I contributed to an existing codebase, based on prior research by (Gange, Harabor and Stuckey, 2021) about *Lazy CBS*, their Multi-Agent Path Finding (MAPF) algorithm.
	   ◦ I modified the *Lazy CBS* codebase such that the algorithm also outputs the final set of constraints that is used to rule out paths, such that *Lazy CBS* is formally an **Explainable** Multi-Agent Path Finding (XMAPF) algorithm.
	   ◦ I learned how to enable Python-to-C++ bindings, such that the compiled *Lazy CBS* codebase can be used as a Python-facing library for future projects.

Freelancing

- I implemented a fault-tolerant file back-up system that enables the continuation of file transferring from an variably-approximate point in time before the back-up disruption.