

# Omri Bornstein

Software Engineer

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Australia

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🌐 [applegamer22.github.io](https://applegamer22.github.io)

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🐙 [AppleGamer22](#)

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## Education

2017 **South Australian Certificate of Education**, [Australian Science & Mathematics School](#) (ASMS),

2019 Adelaide

2020 **Bachelor of Computer Science**, [Monash University](#), Melbourne

Present

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## Skills

- **Computer Programming Languages:** [Go](#), [TypeScript](#)/JavaScript, [Python](#), [Kotlin](#)/Java, C/C++
- **Document Markup Languages:** HTML/CSS,  $\text{\LaTeX}$ , Markdown
- **Databases:** [MongoDB](#)
- **Tools:** [Git](#), [GitHub](#)/[GitLab](#), [Docker](#), [Kubernetes](#), [Vagrant](#), CI/CD
- **Platforms:** Linux, Cloud Native, web servers/browsers, macOS, Windows
- **Soft Skills:** technical writing, presenting/public speaking, research, troubleshooting/debugging, explaining, collaboration/teamwork

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## Leadership Experience

May 2021 **General Representative**, [Monash University's Cyber Security Club](#) (MonSec), Melbourne

January 2022

- Helped to organise and ran a workshop about brute-forcing tools used for penetration testing.

- Participated in [ångstromCTF](#)

January 2022 **Secretary**, [Monash University's Cyber Security Club](#) (MonSec), Melbourne

- June 2022
  - Organised and recorded official committee and club meetings.
  - Represented the club during the orientation week of 2022 1<sup>st</sup> semester.
  - Organised and ran a binary-level reverse engineering workshop (a recording is available at <https://youtu.be/893L13SxDUg>).
  - Started an expanded [resources page](#) on the club's website, with a detailed section with a guide on how to easily install and set-up a [Kali Linux](#) virtual machine.

June 2022 **Vice President**, [Monash University's Cyber Security Club](#) (MonSec), Melbourne

- Present
  - Coordinated collaboration with the university's [Faculty of Information Technology](#) for purposes of events and advertising.
  - Updated the [website's theme](#) to its latest version, and resolved new layout bugs in collaboration with other club committee members.
  - Club representation:
    - Faculty of IT open day
    - Orientation week of 2022's 2<sup>nd</sup> semester.
  - [Capture the Flag](#) (CTF) participation:
    - [The University of Adelaide's CTF](#)
    - [SHELL CTF](#)

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## Projects

### Open-Source

January 2022 **cocainate**, <https://github.com/AppleGamer22/cocainate>

- Present
  - 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.
  - Built with [Go](#) and [Cobra](#).

May 2022 **stalk**, <https://github.com/AppleGamer22/stalk>

- Present
  - 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.
  - Built with [Go](#), [Cobra](#) and [FSnotify](#).

May 2022 **raker**, <https://github.com/AppleGamer22/raker>

- Present
- 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.
  - Server-side is built with:
    - [Go](#)
    - [MongoDB](#)
    - [JSON Web Tokens](#) (JWTs)
    - [Docker](#)
  - Client-side is built with HTML/CSS ([Bootstrap](#)).
  - The companion CLI utility and configuration are built with [Cobra](#) and [Viper](#).

December 2021 **CTFtime Discord Bot**, <https://github.com/monsec/ctftime-discord-bot>

- A Discord bot for [MonSec](#)'s Discord server, that fetches statistics about competing [Capture the Flag](#) (CTF) teams from [CTFtime](#), and displays them in the Discord interface.
- Built with [Go](#).

June 2020 **sp**, <https://github.com/AppleGamer22/sp>

- January 2021
- 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.
  - Built with [Kotlin](#).

April 2019 **scr-cli & scr-web**, <https://github.com/AppleGamer22/scr-cli> & <https://github.com/AppleGamer22/scr-web>

- My previous attempt at building a full-stack (and a CLI) social media scraper with a single-page website framework and a RESTful server.
- Server-side is built with:
  - [TypeScript](#) & [Nest](#) (with a [Node.js](#) runtime)
  - [MongoDB](#)
  - [JSON Web Tokens](#) (JWTs)
  - [Docker](#)
- Client-side is built with:
  - [Angular](#)
  - [Ionic](#)
- The full-stack packages is bundled with [Nx](#).
- The CLI is built with [OCLIF](#)

## Research

August 2021 **Software Contributor**, *Monash University's FIT2082 unit*, Melbourne

- December 2021
- 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.
  - Built with C/C++ and [Python](#) on top of Linux.

## Freelancing

June 2021 **Software Engineer**, *Contract*, Melbourne

- December 2021
- 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.
  - Built with [Go](#).