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Software Engineer

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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

Skills

Computer Programming Languages

Go	<i>server-side and command-line interfaces (CLIs)</i>
TypeScript	<i>full-stack</i>
JavaScript	<i>client-side on web browsers</i>
Python	<i>data analysis and research</i>
Kotlin/Java	<i>Minecraft plugins</i>
C/C++	<i>research</i>

Document Markup Languages

HTML/CSS	<i>client-side on web browsers</i>
T_EX/L^AT_EX	<i>PDF document typesetting</i>
Markdown	<i>technical documentation and communication</i>

Tools

Git	<i>source code version control</i>
GitHub/GitLab	<i>collaboration and CI/CD</i>
MongoDB	<i>document non-relational database</i>
SQL	<i>relational database querying</i>
Docker	<i>container-style packaging</i>
Kubernetes	<i>container orchestration</i>
Vagrant	<i>virtual machine (VM) management</i>

Other

- **Platforms:** Linux, Cloud Native, web servers/browsers, macOS, Windows
- **Soft Skills:** technical writing, presenting/public speaking, research, troubleshooting/debugging, explaining, collaboration/teamwork

Leadership Experience

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.
- Club [website](#):
 - Updated the [theme](#) to its latest version, and resolved new layout bugs in collaboration with other club committee members.
 - Improved the [Kali Linux](#) virtual machine [set-up guide](#) such that it includes more details on alternative installation methods.
- Club representation:
 - Faculty of IT's [Munch & Mingle](#)
 - Faculty of IT's open day
 - Orientation week of 2022's 2nd semester.
- [Capture the Flag](#) (CTF) participation:
 - [The University of Adelaide's CTF](#)
 - [SHELL CTF](#)
 - [DownUnderCTF](#)

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

Projects

Open-Source

- 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) and [Docker](#).
 - Client-side is built with HTML/CSS ([Bootstrap](#)).
 - The companion CLI utility and configuration are built with [Cobra](#) and [Viper](#).
- 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](#).
- 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](#).
- 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>
- May 2022
- 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) and [Docker](#).
 - Client-side is built with [Angular](#) and [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](#).