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Software Engineer

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Education

2020 Bachelor of Computer Science, [Monash University](#), Melbourne
In Progress
2017 South Australian Certificate of Education, [Australian Science & Mathematics School](#) (ASMS),
2019 Adelaide

Skills

Computer Programming Languages

Go	raker, stalk & cocaineate	server-side & command-line interfaces (CLIs)
TypeScript	scr-cli & scr-web	full-stack
Python	FIT2082 research project	data analysis
Kotlin/Java	sp	Minecraft plugins
C/C++	FIT2082 research project	

Document Markup Languages

HTML & CSS	client-side UI on web browsers
TEX/LATEX	PDF document typesetting
Markdown	technical documentation and communication

Tools

Git	open-source projects	source code version control
GitHub/GitLab	open-source projects	collaboration & CI/CD
MongoDB	raker & scr-cli & scr-web	document non-relational database
SQL		relational database querying
Docker	raker & scr-cli & scr-web	container-style packaging
Kubernetes		container orchestration
Vagrant		virtual machine (VM) management

Other

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

Projects

Open-Source

- | | |
|--------------|---|
| May 2022 | raker, AppleGamer22/raker on GitHub |
| Present | <ul style="list-style-type: none">• 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, AppleGamer22/stalk on GitHub |
| Present | <ul style="list-style-type: none">• 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, AppleGamer22/cocainate on GitHub |
| Present | <ul style="list-style-type: none">• 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**, [monsec/ctftime-discord-bot on GitHub](#)
- 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**, [AppleGamer22/sp on GitHub](#)
- 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**, [AppleGamer22/scr-cli on GitHub](#) & [AppleGamer22/scr-web on GitHub](#)
- 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.

Experience

Clubs & Societies

- 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.
 - Changed our [CTFd's theme](#). In addition, I disabled the theme's default CRT-like flicker effect by editing its CSS files, such that people with epilepsy would not get an inferior experience.
 - Club representation:
 - Faculty of IT's [Take CTRL](#) (Cryptography & Web Hacking Workshop)
 - 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's 1st semester.
 - Organised and ran a binary-level reverse engineering workshop (a recording is available on [YouTube](#)).
 - 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](#)

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](#).