

# Chandrasekaran Akash

[c.akash@u.nus.edu](mailto:c.akash@u.nus.edu) | [linkedin.com/in/chandrasekaran-akash/](https://www.linkedin.com/in/chandrasekaran-akash/) | [github.com/Enigmatrix](https://github.com/Enigmatrix) | [enigmatrix.me](https://enigmatrix.me)

## EDUCATION

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### National University of Singapore

Singapore

*Bachelor of Computing, Focus Area in Artificial Intelligence and Parallel Computing*

*Aug. 2021 – Present*

- NUS Greyhats : Member (2021 - Present), Special Projects Director (2021-2022)
- Google Developer Student Clubs, NUS : SWE, Project Mercy Relief (2022-2023)
- Teaching Assistant (CS2107) : AY22/23 Sem 1, AY 22/23 Sem 2, AY 23/24 Sem 1
- Teaching Assistant (CS2040S) : AY 22/23 Sem 2

### NUS High School of Math and Science

Singapore

*Majors in Chemistry and Mathematics, Honours in Physics and Computer Science*

*Jan. 2013 – Dec 2018*

## EXPERIENCE

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### Infrastructure Engineer Intern

May. 2023 – Aug. 2023

*ByteDance*

*Singapore*

- Worked on a Kubernetes operator for rotating TLS certificates generated by Vault, used by the control plane
- Improved performance of service discovery component, lowered response time for some endpoints as much as 66%
- Worked on improving performance of Python and Golang-based components used at scale

### Vulnerability Research Intern

Jun. 2022 – Aug. 2022

*Ensign*

*Singapore*

- Researched on Windows Drivers and the common vulnerabilities and exploits for them
- Found vulnerabilities in targeted product, exploited them to achieve Escalation of Privileges (details under NDA)

### Information Security Engineer

Apr. 2021 – Jun. 2021

*Starlabs*

*Singapore*

- Built a framework to run Taint Analysis on router firmware to detect common vulnerabilities such as buffer overflows and command injections from compiled binaries on routers.
- Found vulnerabilities in several brands of router firmware, and wrote exploits to gain Remote Code Execution

## PROJECTS

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### planlah | *Go, Flutter, Dart, Docker, Docker Compose, PostgreSQL*

2022 – 2022

- An app to plan events with your friends with ease, made using Flutter and Go
- For the Orbital (CP2106) programme, highest level of achievement, Artemis

### Cobalt | *C#, WPF/XAML, Rust, Win32*

2016 – 2019

- An app to monitor and view app usage statistics on a Windows desktop

### whidra | *Kotlin, Ktor, Vue, Typescript, TailwindCSS, Docker, Docker Compose*

2018 – 2021

- Web and mobile-friendly frontend to Ghidra, a popular Reverse Engineering tool made by the NSA

## ACHIEVEMENTS

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DEFCON: *1st Place (Quals), 2nd Place (Finals, in Las Vegas, United States), with team Blue Water* 2023

International Cybersecurity Championship & Conference: *2nd Place (in San Diego, United States), with Team Asia* 2023

Cyber Defenders Discovery Camp: *1st Place (2023, 2022, 2021, Open Category)* 2023, 2022, 2021

Midnight Sun CTF Quals: *6th Place (2023), 7th Place (2022), trip to Sweden for Finals* 2023, 2022

LakeCTF Quals: *5th Place, trip to Switzerland for Finals* 2022

Cyber SEA Games: *2nd Place (2022, in Bangkok, Thailand), 3rd Place (2021), with Team Singapore* 2022, 2021

Australian Informatics Olympiad (Intermediate): *Silver* 2017, 2015

## TECHNICAL SKILLS

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**Languages:** C#, Java, Go, Python, Typescript, Rust, C/C++, SQL (Postgres & SQLite), JavaScript, HTML/CSS

**Frameworks:** Vue, React, Express, NextJS, WPF, WinUI, Flask, Django, JUnit, XUnit

**Technologies:** Docker, Kubernetes, Google Cloud, Amazon Web Services, Github Actions, Ghidra, IDA Pro

## MISC

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**Work Authorization:** Singapore Citizen; Eligible for the H-1B1-Singapore Visa. (separate quota from H-1B pool)