

Will Cashman

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WORK EXPERIENCE

TikTok

Go Software Engineer

Aug. 2021 - Present

Shenzhen, CN

- Follow an agile release train to design and develop core CI/CD capabilities for company release platform in Go.
- Lead the integration of a competing internal product. Perform system integration, developed interactive cross platform data migration tool, and seeked and resolved user issues.
- Actively engaged with users to seek feedback and resolve obstacles, results 85% user retention rate.
- Used Python to perform system migrations, automate repetitive tasks, and SQL database maintenance.

Countersight

Full Stack Software Engineer

Jan. 2021 - Jul. 2021

Canberra, AUS

- Lead a team of two engineers using Agile methods to develop a React/NodeJS project with GitLab and Jenkins test validation.
- Automate deployment and maintenance of company email servers, Zabbix monitoring, and DNS servers using Ansible and Jenkins, and further integrating the services into the ELK stack.

The Australian National University

Workshop Demonstrator

2019 - 2020

Canberra, AUS

- Lead tutor for undergraduate algorithms course. Ensured comprehensive learning experience by leading online forum discussions, designed weekly student workshops as well as course assignments.

CONFERENCES

Maple Conference

Presenter

2020

Virtual

- Rust for developing fast parallelised Computer Algebra Systems
- Demonstrated the suitability of the Rust programming language for implementing complex Computer Algebra systems which prioritise speed without sacrificing extensibility and memory safety.

RESEARCH PROJECTS

Honours Thesis

Polynomial Multiplication Algorithms

Jan - Dec 2020

The Australian National University

- A study of the most popular practical and theoretical polynomial multiplication algorithms
- Developed the nPoly open source Rust library for polynomials that implements several of the algorithms studied with a focus on performance.

Post-Quantum Cryptography

NTRUEncrypt

Jul - Dec 2019

The Australian National University

- Guided research into the NTRUEncrypt Public Key Encryption system for post-quantum cryptography.
- Implemented the NTRUEncrypt cryptosystem in Python, and developed a lattice-based attack in Magma.

EDUCATION

The Australian National University

Bachelor of Philosophy (Honours) - Science

Dec 2020

Canberra, AUS

- Graduated with First Class Honours, GPA 6.5/7, and received Chancellor's Letter of Commendation.
- Specialised in Algorithm design for Computational Algebraic Geometry and Machine learning.

SKILLS

- **Technical:** Go, Python, JavaScript (NodeJS/React), Docker, MySQL, Git/GitHub, Rust, Latex, GNU Troff, Bash.
- **Languages:** English - Native, Mandarin - Working proficiency.