

Tobias Grice

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EDUCATION

University of Adelaide

Bachelor of Computer Science (Distributed Systems & Networking)

Feb. 2022 – Dec. 2025

- Relevant coursework: Algorithms & Data Structures, Operating Systems, Distributed Systems, Advanced Cyber Security, Parallel Computing, Artificial Intelligence, Computer Networks, Web & Database Computing.
- Tech eChallenge: team reached the final round (top 10 of 60+ teams) pitching a tech product to judges.
- Ravi's Study Program (RSP) 2026: three-month intensive DSA practice with live mock interviews.

PROJECTS

Nintendo Entertainment System (NES) Emulator

github.com/tobygrice/nest-emu

Concurrency, Low-Level Systems, Hardware Emulation, C++

Feb. 2025 – Mar. 2026

- Implemented core NES components (6502 CPU, PPU, cartridge, bus) around a shared clock.
- Designed CPU and PPU to operate at single-tick granularity to target cycle-accurate emulation.
- Experimented with a parallel design by running each component in a separate thread.
- Strengthened low-level debugging skills: timing issues, race-prone logic, and system testing strategy.
- Analysed performance and accuracy trade-offs of a parallel design and found a serial design to be more effective.

Advanced Encryption Standard in Parallel (AESP) Library

github.com/tobygrice/aesp

Parallelism, Applied Cryptography, API Design, Library Development, Rust

Jan. 2026 – Feb. 2026

- Developed and published a pure-software AES library in Rust.
- Implemented multiple AES modes (ECB, CTR, GCM) and validated using known-answer test vectors.
- Authored clear crate documentation and a thorough unit test suite to catch regressions.
- Parallelised implementation and tested near-linear speedup across cores against serial design.
- Built a CLI for file encryption/decryption with practical flags, strict input validation, and structured error handling using idiomatic Rust patterns.

EchoPulse — Tech eChallenge

github.com/tobygrice/echopulse

UX Design, Market Research, Marketing, Teamwork, Public Speaking

Mar. 2025 – Jul. 2025

- Designed a mobile app concept to guide users through life-saving first aid when emergency services are unreachable, working in a team of four.
- Conducted interviews with industry professionals (medical, legal, and technical) to validate constraints and iterate on the product.
- Pitched the concept to a judging panel and progressed to the final round (top 10 of 60+ teams).

EXPERIENCE

Boost IT

Adelaide, SA

IT Support Engineer

Mar. 2023 – Mar. 2024

- Independently troubleshoot hardware and software issues across warehouse and office systems.
- Produced detailed documentation for recurring issues to reduce resolution time and improve staff onboarding.

JB Hi-Fi

Adelaide, SA

Retail Salesperson

Jun. 2025 – Present

- Quickly adapted to a high-volume sales environment; consistently performing well against store KPIs.

EB Games

Adelaide, SA

Senior Sales Associate

Oct. 2023 – Jun. 2025

- Strong KPI results and routine handling of opening/closing, daily operations, and supervision of junior staff.

Lifestyle Plus

Adelaide, SA

Disability Support Worker

Oct. 2022 – Feb. 2024

- Tailored support to clients with diverse needs, using interpersonal skills to help them build independence.

TECHNICAL SKILLS

Languages (fluent): C++, Rust.

Languages (familiar): Python, Java, Bash, JavaScript, HTML/CSS, SQL.

Core Concepts: Algorithms & data structures, concurrency & synchronisation, distributed systems, operating systems, cyber security, networking fundamentals, databases.

Tools: Git, Docker, Linux, Jira (familiar).