Lachlan Waugh
Security Engineer

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EXPERIENCE

Casual Academic Tutor   **Feb 2022 - Present**
UNSW Sydney   *Sydney, Australia*

- Tutored security courses: COMP6447 (System & Software Security Assessment), COMP6443 (Web Apps Security & Testing), & COMP6441 (Security Engineering)
- Taught topics ranging from the dangers of implicit trust and authentication, to technical skills such as heap overflows, cross-site scripting & reverse engineering.

Cyber Risk (Identity & Access Management) Intern   **Nov 2021 - Feb 2022**
Deloitte   *Sydney, Australia*

- Crafted architecture proposals and documentation for the transformation of the existing single-sign on and federated identity infrastructure.
- Improved the scalability and security of the IAM solutions of the client, by replacing the current Oracle-based IAM stack with OAuth, and OICD (M365).

Mathematics and Computer Science Tutor   **Jan 2018 - Dec 2020**
Self Employed   *Sydney, Australia*

- Liaised with parents & students to develop uniquely adapted lesson plans to suit students individually. Assisted students from high school to undergraduate level.

EDUCATION

B.Sc. in Computer Science w/ Distinction   **Feb 2019 - Dec 2022**
B.Sc. in Mathematics w/ Distinction   *Sydney, Australia*
University of New South Wales

- 78 (Distinction) Weighted Average Mark
- Majored in Security Engineering

Relevant coursework

- MATH3411: Information, Codes and Ciphers   91/HD
- COMP6845: Extended Digital Forensics & Incident Response   88/HD
- COMP9447: Cloud Security Engineering Workshop   86/HD

PROJECTS

Depends   *Built in TypeScript, NestJS, and React*

- A tool to identify and remediate software dependency-based attacks.
- Developed the scanning logic of the program, which asynchronously detects vulnerabilities in packages as they're pushed or merged to the main branch.
- Also contributed to the back-end database integration, which was used to propagate any issues found by the scanners to the front-end dashboard.

Fuzzball   *Built in Python*

- A simple, blackbox Fuzzer used to generate input to identify software vulnerabilities.
- When provided with a program and sample input, will attempt to mutate that input, in a way that will cause the provided program to crash, or act in unintended ways.
- Developed all of the logic: the bootstrap which detects the type of the sample input, the harness which handles the interaction between the generated input and the sample program, and the strategies which are the ways we modify the sample input.

CONTACT ME

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LANGUAGES

- **C, C++, C#, Java**
- **Python, Bash Scripting**
- **Type/JavaScript, React**

SKILLS

- **Docker, Git, Linux**
- **GDB, IDA, Radare2**
- **Volatility, Wireshark**

VOLUNTEERING

North Beaches Cleanup Crew
Nov 2019 - Dec 2021

- Collaborated with community members to gather litter from across the Northern Beaches.
- The waste collected was organised and used in statistical analysis research by the NSW Government.

EXTRACURRICULAR

Societies @ UNSW

- Security
- Computer Science and Engineering
- Competitive Maths and Programming

Interests

- Fitness, working out, running
- Capture the Flags, programming
- Basketball