

Employment

Jane Street Capital - Software Engineer (Tech Lead, Distributed Systems)

Sep. 2021 – Present

- Developing and supporting core distributed technical infrastructure that is mission-critical to the whole firm, including but not limited to an eventually-consistent monitoring system, a publish-subscription system, and a distributed coordination system.
- Leading a team of 9 in developing an internal critical monitoring system; proposed and led several architectural changes that resulted in significant rewrite to the system that supported tripling the load without any downtime.
- Built a resilient API to subscribe to sharded redundant servers for production system alerts and their updates without disruptions, that's used for 20,000+ times a day; and we now have a whole team working on building an automation and notification ecosystem using the API.
- Led and contributed to 100+ investigations of production issues, both within my direct team and for larger firmwide incidents, that led to discovery of bugs and producing patches for glibc, OCaml Compiler, Kafka, Zookeeper, and various internal proprietary software and libraries.

School of Computer Science and Engineering, UNSW Sydney - Casual Academic

Jan. 2020 – Sep. 2021

- Taught 500+ undergraduate and postgraduate students Computer Networks (COMP3331/9331), Database Systems (COMP3311), Web App Security (COMP6443/6843), Advanced Operating Systems (COMP9242), Web Data Compression and Search (COMP9319)
- Developed course infrastructure for web application security course with 100+ micro-services in a Kubernetes cluster
- Designed and marked assignment and exam challenges
- Run consultation sessions for C language users to answer questions on Linux's low-level socket syscalls

Jane Street Capital - Software Engineer Intern

Dec. 2020 – Feb. 2021

- Worked on optimizing performance for internal distributed systems and reduced CPU usage for key routines by 80%
- Rewrote one of the servers for the next generation of one of our core market data system from scratch
- Contributed 12,000+ lines of code to our production OCaml, Java, and Scala codebase

Education

University of New South Wales, Sydney Australia

Jul. 2018 – May. 2021

B.S. in Computer Science

Average Mark for all Comp-Sci courses: 93.8/100, High Distinction

Transcript at <https://adamyi.io/transcript>

Activities

Capture the Flag (CTF) Author

Mar. 2019 – Sep. 2021

Created 10+ CTF challenges (adamyi.io/ctfs) for the community, including for SecTalks Sydney, UNSW Security Society, and SECedu

Cybersecurity Researcher

Feb. 2015 – Sep. 2021

Discovered 10+ vulnerabilities in various bug bounty programs like Atlassian's

Google Developers Community Programs - Translator (Volunteer)

Jun. 2016 – May. 2018

Reviewed and translated Google's dev videos, docs, and blog posts. Invited to Google I/O as a Community Partner

Side Projects

CTFProxy (Kubernetes, Docker, Bazel, Golang, Python, Jsonnet)

github.com/adamyi/CTFProxy

Scalable CTF infrastructure, with a BeyondCorp-like zero-trust network and simple infrastructure-as-code configuration. This was used for SECedu CTF 2019 and UNSW's Web Application Security (COMP6443/6843) course

MessageOnTap (Java, Android, HCI, NLP)

github.com/MessageOnTap

A development framework for developers to implement intelligent plugins for instant messaging apps by suggesting actions based on chat message semantics (research project at HCII, Carnegie Mellon University)

Productimon (Golang, C, C++, JavaScript)

github.com/productimon/productimon

A cross-platform activity/usage/screen time tracking and analysis tool that supports Linux, Windows, macOS, and Chrome OS/Chromium OS with a cross-platform core codebase that's easy to extend to other platforms

MUNPANEL (PHP)

github.com/munpanel/MUNPANEL_v1

An online high school conference registration system, which had served 3 conferences, 170+ registered schools, 2,000+ registered users, and 75,000+ USD cash flow

And many more, check them out on [🐙 adamyi!](https://adamyi.com)

Awards

Dean's Award	2020
<i>UNSW Faculty of Engineering</i> , for the top 100 students across the entire Faculty of Engineering.	
1st Place	2019
<i>UNSW CSE Performance Prize for Year 2</i> , for the single best performing second year CSE student.	
CommBank Cyber Prize	2019
<i>Commonwealth Bank of Australia</i>	
2nd Place	Oct. 2018
<i>Cyber Security Challenge Australia (CySCA)</i> , run by Australian Government (Australian Cyber Security Centre, Australian Signals Directorate, AustCyber), Telstra, PwC, Cisco, Microsoft, Commonwealth Bank, Splunk, BAE Systems, HackLabs	
Gold Medal	Apr. 2015
<i>International Exhibition of Inventions of Geneva</i> , run by Swiss Federal Government	