# Matthew Craig

matt @ <mattcraig.tech> • linkedin.com/in/mattcraig-tech • github.com/0x65-e

## EXPERIENCE

**Software Engineer, Ultra-Low Latency**                    August 2023 - Present
*Optiver*                                                            *Austin, TX*

- Developing execution strategies and improving exchange connectivity for Delta One, Optiver's HFT team.
- Augmented order management system to enable tracking and canceling quotes on a new exchange.
- Integrated third-party microwave data service, enabling low-latency energy futures trading between exchanges.
- Implemented arbitrage strategy between index futures and equity components.

**Software Engineering Intern**                    June 2022 - Sep 2022
*Palantir Technologies*                                    *Palo Alto, CA*

- Integrated a web map written in Java with both commercial and custom in-house tile servers. Reduced customer configuration by 80% for existing tile servers and enabled access to thousands of open-source tile sets.
- Added concurrency to a language server written in Rust using asynchronous runtimes.

**Software Engineering Intern III**                    June 2021 - Dec 2021
*The Aerospace Corporation*                                    *Remote*

- Developed an autonomous agent using C#/.NET to simulate realistic user behavior on a desktop. Used agent to evaluate accuracy of machine learning model for anomaly detection.
- Designed and ran an attack-defend capture-the-flag (CTF) competition with multiple challenge levels.

**Software Engineering Intern II**                    June 2020 - May 2021
*The Aerospace Corporation*                                    *Remote*

- Led intern development team improving Android penetration testing app from previous summer. Integrated new tools for network sniffing and exploitation. Developed version control system to track tool versions and updates.
- Implemented a network traffic generator to provide a realistic baseline for machine learning anomaly detection.
- Demonstrated proof-of-concept hardware and software proxies to intercept and monitor USB traffic.

**Software Engineering Intern I**                    June 2019 - May 2020
*The Aerospace Corporation*                                    *El Segundo, CA*

- Led intern development team to create an Android penetration testing app. Integrated tools for network scanning, packet capture, and data exfiltration. Added concurrency to support multithreaded processes on Android.
- Designed an embedded security model using containerization to mitigate cyber threats to satellites, reducing successful penetration attempts by 95% in simulated red team testing.
- Developed webserver using Python to parse Splunk alert webhooks and interface with hardware to visualize alerts for SOC monitoring.

## EDUCATION

**University of California, Los Angeles (UCLA)**                    June 2023
*B.S. in Computer Science, B.A. in Economics, minor in Data Science Engineering*

- GPA: 3.98/4.0
- Concentration in Technology Management
- Dean's Honors List and member of Upsilon Pi Epsilon, Tau Beta Pi, and Mortar Board honor societies
- Relevant Coursework: Data Structures, Algorithms, Software Construction, Operating Systems, Programming Languages, Machine Learning, Deep Learning, Linear Algebra, Probability and Statistics, Financial Engineering

## PROGRAMMING LANGUAGES

C++ | Python | C | Rust | Java

## LIBRARIES

OpenOnload | NumPy | Pandas | sklearn | TensorFlow | Keras | Jupyter Notebook | GoogleTest/gMock