

# ERIK TERWIEL

erikterwiel.com • github.com/erikterwiel • erik.terwiel@uwaterloo.ca

**Skills** – Java • Go • C++ • Python • Kotlin • TypeScript • PostgreSQL • MongoDB • Pandas

## EXPERIENCE

---

### Citadel Securities

Chicago, IL

Trader Intern – Single Stock Options, Systematic FICC

Jun 2021 – Aug 2021

- Researched equity options market for inefficiencies and predictive signals using **Python** and **Pandas**
- Developed **Python** batch data processing pipeline which identifies patterns and detects anomalies in FICC market events
- Engaged in mock systematic and discretionary trading and market making, studied betting games, and shadowed traders

### Hatch

San Francisco, CA

Software Engineer Intern – Backend

Jan 2021 – Jun 2021

- Developed core banking features such as debit card overdraft, monthly statements, and fees using **Kotlin** and **PostgreSQL**
- Architected and built template-driven code generation engine, saving four hours of development time per new DB table
- Instrumented 3rd-party integrations and wrote incident response procedures using heartbeat metrics, monitors, runbooks

### Google

Mountain View, CA

Software Engineer Intern – Hotels Backend

May 2020 – Aug 2020

- Architected and built **Apache Beam Go** pipeline that computes global hotel and region safety scores from historical crime
- Developed multithreaded **C++** job that persists pipeline results from GCloud Storage to **Memcached** as serialized **Protobuf**
- Wrote **C++** backend API with KD-tree implementation to expose cached results, built **React** heatmap to visualize results

### Lumina

San Francisco, CA

Software Engineer Intern – Backend

Sep 2019 – Dec 2019

- Developed unified data and accounting model for crypto derivative trades with support for options, futures, and CFDs
- Integrated crypto exchanges and blockchains with **Go** backend, resulting in added 1M line items and >\$2B in digital assets
- Built first iteration of read-only bank and traditional brokerage support using **Plaid**, **Go**, **GraphQL**, and **PostgreSQL**

### Carrot Inc.

Redwood City, CA

Software Engineer Intern – Mobile

Jan 2019 – Apr 2019

- Developed Pivot, an **Android** app integrated with a Bluetooth LE device which empowers millions of people to quit smoking
- Revamped or completely reconstructed nearly every feature to adhere to **MVVM** architecture and latest Android standards
- Built **Node.js** ETL pipeline and **Express**, **PostgreSQL** REST API that compiles pipeline results to push surveys to client apps

### Srvice

Waterloo, ON

Co-Founder & Program Manager

May 2018 – Apr 2019

- Created Srvice, a web and mobile service marketplace that matches users to professionals offering trades and services
- Led main product development with a team of four developers and three designers using Agile Scrum methodology

## PROJECTS

---

### Algorithmic Trading Bot

May 2020 – Jun 2021

- **Go** trading bot that trades spot FX and Bitcoin futures using price action to setup positive expectancy, risk defined trades
- Implemented multithreaded WebSocket and CSV clients to accept live price data, historical price data, and order updates

## EDUCATION

---

### University of Waterloo

Sep 2017 – Apr 2022

- Candidate for Bachelor of Software Engineering, Computational Mathematics Minor