

Yskak Shiyap

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EDUCATION

University of New South Wales

Bachelor of Science in Computer Science, Bachelor of Commerce in Finance

Sydney, Australia

February 2021 - January 2024

University of Toronto

Bachelor of Science in Computer Science and Mathematics

Toronto, Canada

August 2019 - December 2020

WORK EXPERIENCE

Frame Funds Management

Sydney, Australia

Quantitative Researcher Internship

May 2023– Present

- Optimised 5 existing algorithmic trading strategies in Python by refactoring code to reduce unnecessary computations and matrix operations. This decreased computation time by 10%, allowing more rapid iteration and backtesting.
- Backtested 3 new statistical arbitrage strategies in AmiBroker, identifying alpha signals that showed 8% better returns vs benchmark in out-of-sample testing.
- Conducted slippage analysis by backtesting order routing algorithms. Enhanced logic for splitting orders and minimising price impact, reducing slippage by 15 bps.
- Developed real-time "Trend Barometer" in Python for monitoring weekly positions featured in investor newsletters.
- Built a dashboard in Tableau to track the performance and exposure of 20+ strategies. Provided dynamic insights into strategy evaluation and increased visibility into fund performance for portfolio manager.
- Presented findings from backtests and proposed new signals to the managing director and two quantitative research analysts.

Caspian Exchange

Astana, Kazakhstan

Founder

August 2021 – April 2023

- Founded a cryptocurrency exchange based in the Astana International Financial Centre (AIFC). Raised \$120k in seed funding.
- Built a team of 9 full-time employees, including developers, designers, compliance and customer support. Managed recruitment and day-to-day operations.
- Worked with offshore teams to build an MVP crypto exchange web app with core features - account management, 2FA, OTC portal, and order matching engine.
- Onboarded over 500 users in Kazakhstan in the first year through digital marketing campaigns and local university outreach.
- Devised go-to-market and customer acquisition strategies tailored to Kazakhstan markets. Focused on ease of use, security and support in native language.
- Navigated regulatory licensing process and requirements to receive approval for digital asset trading and custody from AIFC.

Amazon

Seattle, Washington

Software Development Engineer Intern(Insight programme)

June 2018 – August 2018

- Developed an Amazon Alexa skill with Python on AWS Lambda, enabling users to play a TV show trivia game. Coded 5 unique game modes to enhance engagement.
- Presented final project to a panel of 10 senior engineers and program managers, highlighting architecture and design decisions made to optimise cost and performance.

PROJECTS

Realised Volatility Prediction Model for Optiver - [Github Repo](#)

- Collaborated with a team of 4 students and 2 Optiver quants in a quantitative competition to build predictive models.
- Achieved highest out-of-sample R^2 of 0.93 and RMSPE of 0.078 among 6 competing teams—reduced error by 11% vs baseline models.
- Compared models including LSTM, ARIMA, Random Forests and XGBoost using Python and sklearn. Tuned XGBoost hyperparameters using randomised grid search.
- Condensed all objectives into a slide deck and technical report and presented it to Optiver employees, highlighting the essential findings and the value of the realised volatility prediction model for the company.

Eatery Management System - [Github Repo](#)

- Built a full-stack web application with ReactJS frontend using MaterialUI components and Flask backend.
- Designed PostgreSQL database schema and implemented CRUD operations using SQLAlchemy ORM.
- Developed REST APIs with Flask-RESTful and integrated APIs securely using JWT authentication. Leveraged Google Maps API to display nearby eateries
- Containerised microservices using Docker Compose for efficient deployment. Load balanced containers using Nginx reverse proxy.

UNSW Messaging App

- Designed a scalable backend in Python utilising proper conventions like routes and modularity, increasing code maintainability.
- Integrated frontend with the Flask backend using RESTful APIs for communication.
- Defined features, user stories and epics to develop better customer experience.
- Successfully employed Git and Agile methodology to streamline the software development process, resulting in a more efficient workflow.

Unity Mobile Game - [Github Repo](#)

- Developed a 3D side-scroller driving game for mobile in Unity using C# and Unity's 3D workflow.
- Created procedural generated landscapes and dynamic level segments using C# scripts.
- Programmed first-person and third-person cameras and realistic driving physics with torque and wheel colliders.
- Imported 20+ low-poly 3D sprites and textures to craft an engaging, retro graphical style.

SKILLS & INTERESTS

Languages: C, Python, Java, JavaScript, TypeScript, Assembly, HTML, CSS, SQL, Rust

Frameworks: Flask, React, MongoDB, SQLAlchemy, Pandas, Numpy, TensorFlow, PyTorch

Tools: API, Postman, Git, Vim, PostgreSQL, MySQL, AWS

Miscellaneous: Microsoft Office (Word, Excel), MATLAB, Unix