

# 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**

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**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