Yskak Shiyap

Sydney, Australia |+61 0493 300 046 | shiyap.yskak@gmail.com | [Linkedin](#) | [Github](#)

EDUCATION

University of New South Wales   **Sydney, Australia**
Bachelor of Science in Computer Science, Bachelor of Commerce in Finance   *February 2021 - January 2024*

University of Toronto   **Toronto, Canada**
Bachelor of Science in Computer Science and Mathematics   *August 2019 - December 2020*

WORK EXPERIENCE

Frame Funds Management   **Sydney, Australia**
Quantitative Researcher Internship   *May 2023– August 2023*

- Backtested 3 new 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.

Optiver   **Sydney, Australia**
Student Researcher   *Feb 2023– May 2023*

- Collaborated with a team of 4 students and 2 Optiver quants in a quantitative project 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.

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

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.

Video Hosting and Transcoding Platform - [*Github Repo*](#)

- Designed and developed a full-stack video hosting platform similar in functionality to YouTube.
- Implemented features for video listing, playback, user authentication, and video upload.
- Utilised Google Cloud Storage for storing raw and processed videos. Deployed Google Cloud Pub/Sub for messaging in the video processing pipeline.
- Developed a Next.js client application, hosted on Cloud Run, for video streaming and user interactions

Toxic Comment Classification - *Github Repo*
- Engineered an NLP model using TensorFlow and Keras to classify comments into toxicity categories, achieving 98% accuracy in identifying harmful content.
- Analysed and preprocessed a dataset of over 100k+ comments utilising Pandas and TensorFlow's TextVectorization, enhancing data quality and model input.
- Streamlined data handling with tf.data, efficiently processing and batching large-scale textual data for model training.

AI-Powered Squat Form Analysis and Coaching Tool - *Github Repo*
- Real-time squat form analysis using webcam feed, leveraging MediaPipe for pose estimation.
- Implemented a Convolutional Neural Network (CNN) to classify squat forms into 'good form' and 'adjust form' categories.
- Integrated the CNN model with real-time video processing for instant feedback on the squatting form.
- Developed an interactive video labelling system enabling manual annotation of squat stances and other key aspects

JPMorgan Chase & Co. Quantitative Research Virtual Experience Program
- Completed a simulation focused on quantitative research methods.
- Analysed a book of loans to estimate a customer's probability of default.
- Used dynamic programming to convert FICO scores into categorical data to predict defaults.

SKILLS & INTERESTS

Languages: C, Python, Java, JavaScript, TypeScript, Assembly, HTML, CSS, SQL, Rust
Frameworks: Flask, React, MongoDB, SQLAlchemy, Pandas, Numpy, TensorFlow, PyTorch, XGBoost, OpenCV, Next.js
Tools: API, Postman, Git, Vim, PostgreSQL, MySQL, AWS, Google Cloud, Firebase
Miscellaneous: Microsoft Office (Word, Excel), MATLAB, Unix, CNN