AKHAN ISMAILOV

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EDUCATION

Kazakh-British Technical University, Kazakhstan *Sep 2023 - May 2025*
Master degree in Data Science

Hong Kong University of Science and Technology, Hong Kong *Sep 2015 - May 2019*
Bachelor degree in Computer Science with minor in Math
Dean's list 8 times. CGA 3.94 out of 4.3

EXPERIENCE

Quantitative Researcher *Part-time, Sep 2023 - present*
DNA Capital, Remote from Kazakhstan *Full-time, May 2023 - Aug 2023*
- Developed a high-frequency **market making** strategy using **C++** on major cryptocurrency exchanges **Okex** and **Binance**, with an average daily traded volume of approximately **$7.5M**.
- Developed a **mid price prediction** model for cryptocurrencies with a prediction horizon of 10 seconds, achieving an **R-squared** score of **0.12**.

Software Engineer *Sep 2019 - Jul 2020*
JPMorgan Chase & Co, Hong Kong
- Utilized the **React** framework to enhance the frontend of the internal **Research Articles** website by implementing various forms and pages, resulting in an improved user experience.
- Employed the **Java Spring** framework for efficient backend development, focusing on seamless functionality, effective data extraction, and integration with databases for the Research Articles website.

Research intern in Deep Reinforcement Learning *Jun 2017 - Aug 2017*
Naver Corporation, South Korea
- Created a novel **visualization technique** for Reinforcement Learning agents' decision-making in Atari video games by incorporating an attention module into the **neural network** architecture using **PyTorch**.
- Collaborated with my supervisor to develop a **state-skipping technique** that resulted in a **two times acceleration** of learning in playing the Atari Breakout video game using **TensorFlow**.

ADDITIONAL EDUCATION AND TEACHING

Center of Mathematical Finance *Sep 2022 - Jan 2023*
Educational center in quantitative finance, Online
- Developed a **Python**-based **backtest simulator** that read market data from CSV files and accommodated user requests for market/limit orders. Achieved the processing of **1 day** of high-frequency trading data in **5 minutes**.
- Created a **market making strategy** in Python aiming to control inventory around zero by adjusting limit orders' prices for targeted execution probabilities, resulting in **positive PnL** during simulator testing.
- Conducted research on the stationary distributions of **inventory processes** in market making, demonstrating their convergence to a normal distribution under specific assumptions.
- Implemented baseline market making strategies using the research paper by **Avellaneda and Stoikov**, incorporating customizations such as online estimation of volatility parameters.

Math Olympiad Coach *Sep 2021 - May 2023*
National Physics and Math School, Kazakhstan
- Mentored 21 high school students for Math Olympiads, leading to exceptional achievements, including 3 silver medals at **IMO** and a total of 15 medals at national level Olympiads.

AWARDS

Double **gold medalist at IMO** (International Mathematical Olympiad) in 2014 and 2015.
Awarded Academic Achievement Medal, **top 1%** of graduates during my bachelor's at **HKUST**.
Attained the rank of **Master** on **Codeforces** with a maximal rating of 2316.
Successfully solved **430 hard** problems on **Leetcode** and authored 100 solution posts.