Arkadii Kleimenov

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EDUCATION

Higher School of Economics National Research University — **Moscow, Russia**
Bachelor of Mathematics — *Expected Graduation, Jun 2027*
GPA: 8.27/10

Moscow State Institute — **Moscow, Russia**
Introduction to Blockchain and Distributed Finance — *Sep-Dec 2024*

Completed a fundamental programming course from Yandex — **Moscow, Russia**
Developed and delivered multiple functional projects over the course — *Graduated, Sep 2020 - Jun 2022*
GPA: 9.43/10

Physics and Mathematics Lyceum of MEPhI — **Moscow, Russia**
with advanced study of physics and mathematics — *Graduated, Sep 2019 - Jun 2023*
GPA: 4.6/5.0

WORK EXPERIENCE

HSE University Laboratory of Financial Mathematics — **Moscow, Russia**
Research Assistant — *Feb 2024 – Present*

- Perform quantitative research on market microstructure and portfolio risk, analyzing over 1M historical trade records using Python (NumPy, pandas) and SQL.
- Build and calibrate stochastic and econometric models (GARCH, Monte Carlo, VAR) to study volatility clustering and Value-at-Risk estimation accuracy.
- Conduct statistical tests (ADF, Johansen, Ljung–Box) on price series to identify cointegration and mean-reverting relationships across asset pairs.
- Visualize results and backtest models on real market data, improving predictive accuracy by approximately 7%.

Stakewolle — **Remote**
Financial Analyst — *Sep 2023 – Nov 2024*

- Developed a hybrid ML model (BART + LSTM) to predict cryptocurrency volatility, integrating sentiment analysis of 50+ influencers (F1-score=0.87), on-chain metrics (NUPL, SOPR, MVRV), order book data, and macroeconomic indicators (Fed rates, CPI). ***Result: Increased annual returns by 2%***
- Built SQL dashboards in BigQuery to analyze influencer activity and deposits, identifying optimal campaign timing (14:00–17:00 UTC, ***+8% conversion***).
- Created a real-time analytics script (Python, WebSockets) to track MAU/DAU, enhancing user engagement monitoring.

PROJECTS

Clebsch–Gordan Decomposition Formula for sl(2) Representations — *June 2025*

- Conducted a detailed study of the Clebsch–Gordan decomposition formula for irreducible representations of the Lie algebra sl(2) as part of a coursework project at the National Research University Higher School of Economics, Faculty of Mathematics.
- Explored the classification of root systems, tensor products of sl(2) modules, weight subspace decomposition, and construction of highest weight vectors, culminating in establishing the isomorphism for the direct sum decomposition.

DCA Optimization Model — *March 2025*

- Developed a script to calculate cumulative returns from investing in a Japanese index using a Dollar-Cost Averaging (DCA) strategy.
- Proposed and implemented 3 alternative approaches to improve cumulative returns while maintaining the core DCA principles.

Steiner Problem Coursework — *June 2024*

- Conducted a comprehensive study of the Steiner Problem for a first-year bachelor's degree coursework at the National Research University Higher School of Economics, Faculty of Mathematics.
- Analyzed the Pompeiu Theorem, Torricelli Point, and specific cases involving rectangles and trapezoids, providing detailed solutions and conclusions.

Seal Recognition Application — *Apr 2022*

- Contributed to training a model and developing an application for recognizing seals.

ACHIEVEMENTS

Take the 1 place in DriveHack 2.0 hackathon **Moscow, Russia**

Top-1. In total 150+ participants and more 50 teams *June 2023*

- Secured victory in the DriveHack 2.0 hackathon, surpassing over 50 competing teams, with a focus on developing innovative solutions for predicting subway traffic patterns *LiveDemo* : *SubwayCongestionPrediction*.
- Collaborated and managed a team to design and implement a robust predictive model, demonstrating advanced problem-solving and technical expertise.

Won in Demonstration Exam **Moscow, Russia**

In total 2000+ participants *Apr 2022*

- Created a program to track employees and monitor the applications they were using.
- Implemented analytics to track how much time employees spend in various applications, identifying distractive apps that hinder productivity.
- Designed a warning system that alerts employees when they use non-work-related (distractive) applications.

ADDITIONAL

- Relevant Courses: Programming Methodology and Data Structures in Python and C++, Algorithms, Linear algebra and geometry, Calculus, Probability and Statistics.
- Programming languages: Python, SQL