

Nikolay Chechulin

✉ nchechulin.work@gmail.com | 📞 +7(925)356-71-20 | 📍 Moscow, Russia | 🌐 NChechulin | 📧 NChechulin

Education

London School of Economics

BS IN DATA SCIENCE AND BUSINESS ANALYTICS

Remote

Sep 2021 – Jul 2024

Higher School of Economics

BS IN DATA SCIENCE

Moscow, Russia

Sep 2020 – July 2024

Experience

Alor Invest

HFT QUANTITATIVE TRADER

- Come up with new HFT MM and Arbitrage strategies and implement them in C++
- Create data analysis tools
- Monitor trading activities, track and assess strategy performance

Moscow

Jan 2023 – Present

HSE Laboratory of AI in Mathematical Finance

INTERN RESEARCHER

- Research pairs trading strategies on MOEX

Moscow

Sep 2023 - Jun 2024

HSE Robotics Group

ML INTERN

- Research and implement Reinforcement Learning algorithms
- Implement a Python simulator for CartPole problem
- Integration with the existing technology stack

Moscow

Jul 2022 – June 2023

Higher School of Economics

TEACHING ASSISTANT

- Hold office hours and consultations, Check and grade homeworks
- Worked as a TA on the following courses: Introduction to Programming (Python, C++), Algorithms and Data Structures, Computer Architecture and Operating Systems

Moscow, Russia

Sep 2021 – June 2023

Skills

Spoken Languages: Russian (native), English (C1 IELTS Academic)

Python: PyTorch, SKLearn, Pandas, Numpy, Seaborn, Matplotlib, multiprocessing, parsing

C++: STL, QT, Algorithms and Data Structures

ML & DL: Classical ML models, ANNs, basics of Reinforcement Learning, basics of Computer Vision

Statistics & Finance: Black-Scholes, Time Series and Stochastic Processes, ARCH, GARCH, Econometrics

Rust: STL, Tokio, egui

Projects

Search for Arbitrage Opportunities

C++, Python

IN THIS PROJECT, I RESEARCHED THE APPLICABILITY OF CLASSICAL HFT PAIRS STRATEGIES ON MOSCOW STOCK EXCHANGE. THE PROJECT USED AN INDUSTRY-GRADE BACKTESTER WITH LIMIT ORDER BOOK DATA, REAL-WORLD LATENCIES AND COMMISSIONS. ALSO, I SUGGESTED AN IMPROVEMENT TO THE BASE ALGORITHM, RESULTING IN GREATER PROFITABILITY AND SMOOTHER EQUITY PLOT.

CartPole RL

Python, PyTorch

I CODED A CUSTOM PHYSICS ENGINE AND TRAINED AN RL AGENT TO SWING UP THE POLE. THIS INVOLVED IMPLEMENTATION OF SEVERAL RL ALGORITHMS FROM SCRATCH, BUT WE STOPPED ON DDPG, SINCE IT SHOWED THE BEST PERFORMANCE WITH REGARD TO TRAINING TIME.

Topological Deep Learning

Python, Pytorch-Geometric

A CUSTOM GRAPH PREPROCESSING ALGORITHM FOR GRAPH NEURAL NETWORKS, ALLOWING US TO MERGE SOME NODES IN THE GRAPH, RESULTING IN 22% DECREASE IN NODES NUMBER AND 57% DECREASE IN EDGES NUMBER, WHILE DROPPING ACCURACY BY ONLY 7%.