Oleg Shepelin

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EDUCATION

Skolkovo Institute of Science and Technology — Moscow, Russia
M.Sc in Applied Mathematics and Informatics — *Sept 2022 - June 2024*
Courses: *Machine Learning, Deep Learning, NLP, LLMs, Reinforcement Learning,*
High Performance Computing, Numerical Linear Algebra, Numerical Modelling, Convex Optimization
Projects: *LORA PEFT of LLMs, Energy-based sampling, Diffusion models implementation, RL trading bot in production,*

Higher School of Economics University — Moscow, Russia
B.Sc. in Mathematics — *Sept 2018 - June 2022*
Courses: *Calculus, Linear Algebra, Probability Theory, Mathematical Control, Data Science*

EXPERIENCE

Cicada Capital — Remote
Quantitative Researcher — *April 2023 - present*

- **Time Series Regression Models**:
  Designed and developed boosting time series regression model for market dynamics prediction as well as financial instruments scoring model. Engineered data collection pipelines, deployed to production, and resulted in 450 mil USD turnover over several strategies driven by the models.

- **Anomalies and Adverse Cases Detection**: Developed boosting time series classification model in class imbalance setting, resulting in losses reduction of 40% (200k USD) and false-positive actions reduction of 30%. Impacted firm's Data and ML infrastructure.

- **Trading Strategy Execution**: Engineered High Performance model-driven trading algorithm with code, architecture and design reviews, versioning and CI/CD development cycles, deployed and maintained in production. Resulted in execution of trades of 200m USD annual turnover and 1.2m USD revenue. Performed AB-testing of different versions of model.

Sber Devices — Moscow, Russia
Researcher — *June 2023 - July 2023*

- **Diffractional Neural Network**: Reproduced SOTA image classification scientific paper on instant inference with optical computing, beaten accuracy benchmark (94% vs 92%). Made significant theoretical improvement over original paper and efficiently implemented complex optical computations with PyTorch. Engineered training pipeline with docker, Hugging Face Trainer and wandb logging.

Mach Fund — Remote
Data Analyst — *April 2022 - Oct 2022*

- **Product optimization**: Produced and AB-tested 8 product strategies for users acquisition, engagement and retention, customer lifetime values and product revenue. Contributed heavily to business strategy of the product. Developed simulation environment for game-theoretical users behaviour analytics, optimized for best strategies using SOTA HPC methods for discrete and convex optimization.

Fosun Eurasia Capital — Moscow, Russia
Analyst Intern — *Nov 2021 - April 2022*

- **Financial Analytics**: Reworked company-wide data collection, aggregation and analytics pipeline. Modelled and successfully pitched investments of 150m USD.

SKILLS SUMMARY

- **ML Ops:**   Linux, Git, SQL, wandb, Docker, Airflow, MLFlow

- **Data Science:**   PyTorch, Numpy, Numba, Pandas, Catboost, XGB, LightGBM, Scipy, Scikit

- **Languages:**   English (Fluent), Russian (Native)