

# Oleg Shepelin

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## WORK EXPERIENCE

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- **Cicada Capital** Remote  
*ML Engineer, Quantitative Trading* *April 2023 - present*
  - **ML model-driven trading:** Designed and developed XGBoost and Catboost regression, classification and scoring models for model-driven trading. Performed AB testing of models' versions. Deployed and maintained in production with Airflow, used models for algo-trading resulting in 550 mil USD turnover and 1.2 mil USD revenue.
  - **MLOps and Development:** Engineered ETL pipelines, real-time data mining and processing jobs, micro-services for data collection and transformation paired with Clickhouse. Setup model monitoring and alerting with Grafana and PagerDuty, setup experiments logging with Wandb and optimized model inference for latency. Engineered High Performance parallelized model backtest code with Numba.
  - **Data Science:** Inspected raw data, engineered features, created models from scratch and improved upon working models. 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%, regression model for directional trading and a scoring 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.

## EDUCATION

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- **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

## SKILLS SUMMARY

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- **ML Ops:** Linux, Git, Clickhouse, SQL, Wandb, Docker, Airflow, MLFlow
- **Data Science:** PyTorch, Numpy, Numba, AsyncIO, Pandas, Catboost, XGB, LightGBM, Scipy, Scikit
- **Languages:** English (Fluent), Russian (Native)