

# Eduard Netsajev

Software Engineer

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## WORK EXPERIENCE

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### XTX Markets

Software Developer

London, UK

November 2019 - June 2023

- Directly Responsible Individual for many critical performance demanding systems related to various aspects of the firm's trading activity: real-time trades confirmation, options risk module, historical data replay for research purposes, transactions ledger engine, global positions keeper, live market prices for PnL and risk, and many others
- Collaborated with Quant and Risk Researchers to fully rework the options module: resolved discrepancies related to pricing and greeks calculations, eradicated recurrent false-positive risk limits breaches, created tools for investigation of any incidents or metrics, implemented stress testing suite, and more
- Redesigned global positions keeper service to handle **20X** larger positions set and to process **500,000+** trades per second while responding to queries faster than the previous service and becoming strongly consistent and fully serializable
- Optimized transaction ledger client achieving **10X** higher throughput with significantly lower latency
- Completely rewrote in-house FIX engine eliminating whole classes of production issues and on-call alerts, significantly improving performance and efficiency to handle any load spikes, as well as ensuring immediate failover with zero data loss in case of any network or hardware failures
- Fixed a memory leak caused by complex unsafe low-level optimizations that was eluding the team for over six months by forking the `golang/debug` repo and optimizing core dump viewer to easily handle 10+ GB core dumps

### Jane Street

Software Developer Intern

London, UK | New York City, US

March 2017 - May 2017

- Improved by more than **120%** the speed of a business-critical real-time trades monitoring application
- Designed and implemented an **OCaml** web-framework for easy and type-safe web forms development

### Nortal

Software Developer

Tallinn, Estonia

June 2015 - June 2016

- Developed corporate platforms and government service portals primarily using **Java**, **SQL**, and other related technologies

## EDUCATION

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### Tallinn University of Technology

Bachelor of Science in Engineering, Major in Computer Science

GPA: **4.82/5.00**, *cum laude*

Tallinn, Estonia

June 2016

## SKILLS

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- Programming Languages: C++, C, Python, ASM, Bash, MATLAB, Go, Java, SQL, OCaml

## PROJECTS

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### Motor Insurance Clients Risk Level Evaluation using Artificial Neural Networks and Deep Learning

- Developed a risk level evaluation system for a large motor insurance company using **Machine Learning** methods in a framework of R&D project LEP15111 as part of my bachelor's thesis using **Python**, Keras, NumPy, and Matplotlib
- Earned "*Outstanding Research Award*" in the ICT Thesis Projects Contest by analyzing and testing different strategies to architecture and train a deep neural network in combination with multiple data preprocessing techniques
- Engineered a solution selected for production implementation over 3 alternatives developed by a team of PhDs due to its greater predictive power

## ACHIEVEMENTS AND EXTRACURRICULARS

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- Started learning C, C++ and Assembly languages in high school by taking an advanced course in microcontrollers programming "Creating simpler automated device elements based on 8-bit controllers" in a local university college. Final project was programming an autonomous vehicle (Autumn 2009)
- Participate in various competitive programming contests both online (Codeforces, AtCoder, etc.) and offline. Represented my university internationally at: ACM International Collegiate Programming Contest (Autumns of 2014 and 2015), Google Hash Code Programming Competition (Winter 2016), IEEEExtreme 24-Hour Programming Competition (Autumn 2014)
- Certified PADI Master Scuba Diver with over 100 dives