Nikita Sivukhin

Tech Lead

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Work experience

now — **ShareChat/Moj, core recommendation system**
2022 dec — sharechat.com

- Development of cost-efficient ANN-index with 100k RPS throughput and p99 latency below 50ms
- Development of cost-efficient model serving layer based on `tensorflow-serving`
- Migration of distributed FM training pipeline written in Go from `BigTable` to `Scylla`
- Ownership of the recall inference layer in large recommendation system

2022 dec — **Kontur.Focus, business-partner analysis product**
2021 may — kontur-inc.com/focus

- Development of a high-performance and memory-efficient subsystem for connection analysis. The core component is the company graph index written in `C#` with pattern matching search support
- Implemented an in-house stream processor for easy and declarative definition of pipelines. The engine was written in `C#` and supported multi-core processing, state checkpoint and `LINQ`-style DSL
- Implemented queue on top of the key-value DB for the durable processing of unreliable data source

2021 may — **Kontur.EDI, electronic document interchange provider**
2017 sept

- Development and maintanence of the service for electronic document interchange with focus on reliability, flexibility and speed of message delivery
- Migrated legacy even-sourcing subsystem which involved live multi-terabyte intelligent data migration and business logic refinements
- Implemented both back-end and front-end components for a subsystem that automates the process of connecting new clients
- Some components I contributed in were open-sourced: GrobExp.Compiler, distributed-task-queue

Education & Achievements

2022 — **Visualized HITB Pro CTF 2022 contest (GitHub)**

- Implemented visualization with plain `three.js`
- Implemented shader for Voronoi-diagram visualization (interior of a cell)

2020 — **Worked on ICFPC2020 online contest infrastructure**

- Integrated the contest system with AWS cloud to provide additional resources for the horizontal scaling of bot battles

2018 – 2020 — **Master's degree of Mathematics and Computer science**
Ural Federal University, Russia

- Thesis: Construction of Sparse Suffix Trees and LCE Indexes in Optimal Time and Space (arXiv)

2014 – 2018 — **Bachelor's degree of Mathematics and Computer science**
Ural Federal University, Russia

- Joint program with Yandex School of Data Analysis (ML developer track)
- Thesis: Compressed multiple pattern matching (arXiv)

2016, 2018 — **ACM ICPC World Final, Silver and Bronze medal**

- 8th place, Ural Federal University team, final scoreboard: icpc.global
- 13th place, Ural Federal University team, final scoreboard: icpc.global

2014 — **International Olympiad in Informatics, Gold medal**

- 23rd place, final scoreboard: stats.ioinformatics.org

Skills

- Solid knowledge of `Go` language (see open source projects: govanish, gok8sproxy, godjot)
- Solid experience with `Cassandra`/`Scylla`, `Kafka`/`RedPanda`, `Elasticsearch`, `Redis`
  - Identified correctness bug in `Cassandra` thrift protocol after production incident: `CASSANDRA-14812`
- Confident use of `Kubernetes` and `Helm`
  - Optimized costs for `k8s@1.24` in `GKE` with `HPA` tuning and `topology-aware` routing
- Passioned about algorithms and data structures, especially compression and compressed data structures
- More than five years of experience and very strong understanding of `C#` language and `.NET` ecosystem
- Knowledge of ML concepts: tabular data, NLP, RecSys (from Yandex.Dataschool courses and ShareChat)
- Free use of many tools for daily routines: `Python`/`Jupyter` notebooks, `Unix` tools, `docker` / `docker-compose`
- One year of experience as a full-stack engineer working with `Typescript`, `React` and `webpack`
- Solid knowledge of `C++` from university courses, scientific work and competitive programming contests
  - See implementation of succinct Aho-Corasick algorithm: Bitbucket