Kyryll Puchkov

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https://github.com/puchkovki
Nationality: Ukraine
📍 Schaffhausen, Switzerland

Key skills

- **Programming languages:** Scala, Go, C++
- **Working experience with:** Git, CMake, Make, Travis CI, Docker, SQL, C
- **Expertise in:** Distributed systems, multithreading, software engineering, automated testing, architecture strategy, continuous integration
- **Soft skills:** Project management, product delivery, design thinking
- **Quantitative skills:** linear algebra, discrete mathematics, algorithms, probability theory, optimisation
- **Languages:** English *(fluent)*, Ukrainian *(native)*, Russian *(native)*, German *(conversational)*

Work and research experience

Backend developer *2021 - Present*
Tinkoff, Small and medium-sized enterprises

- Using own *pipeline* framework, created a vast *microservice* infrastructure with integration of *automated testing* service
- Took part in *SRE* team work, enhancing server *reliability* and *overload* resistance; maintained *legacy code review* to decrease incidents number
- Collaborated with peers on the development of new automation tools and services that used the *Scala pure functions*; worked on the elimination of the side effects and improvement of reliability and performance using the *functional paradigm*

Research Intern *2020 - 2021*
Acronis

- Theoretically described the *garbage collection* algorithm in search engines, based on bitmap-indexes
- Implemented the algorithm on a search engine based on LSM trees written in *Go*
- Calculated the algorithm *running time* depending on the amount of added documents and *IO metrics* for the request queries

Education

BSc Applied Mathematics and Physics, School of Applied Mathematics and Informatics *2017 - 2021*
Moscow Institute of Physics and Technology, Moscow, Russia

- GPA: 4.87/5, Honours degree
- Main specialisation: *Computer Science*
- Bachelor's thesis: Garbage collector in search engines, based on bitmap-indexes

MSc Computer Science and Software Engineering *2021 - 2023*
Schaffhausen Institute of Technology, Schaffhausen, Switzerland

Projects

Garbage collector in search engines — https://github.com/puchkovki/bachelor-thesis

- Developed an effective garbage collection algorithm, tested and compared with other solutions
- Written fully in *Go* due to its convenience for multithreading

Model of a distributed system (distr-model) — https://github.com/puchkovki/distr-model

- Implemented the *infrastructure* that allows to create models of *distributed processes*
- Written fully in *Go* due to its convenience for multithreading
- distr-model simulates distributed processes that exchange messages with loss and supports both synchronous and asynchronous operation mode

Telegram bot for the campus domestic issues — https://github.com/kichyr/domestic_issues

- This bot simplified the application filling process for the domestic issues in the campus
- Backend is written fully in Python, using the Google Tables. Frontend is using JavaScript to interact with users

Website for programming contests (Judex) — https://github.com/trmigor/Judex

- Judex is a system for automatic testing for student contests
- Backend is written fully in *Go*, using the standard libraries and *MongoDB Server*
- Project is using multithreading with *goroutines* for faster results. System calls are used to manage time and memory used for test runs in isolated environment in order to keep system safe