Kyryll Puchkov

Software Engineer · Backend Developer

*Schaffhausen, Switzerland | **permit S***

(+41)76-230-2289 | kyryll.puchkov@sit.study | puchkovki | puchkovki | puchkovki

"I didn't fail 1000 times. I've just found 1000 ways that won't work."

Experience

ELCA — *Zurich, Switzerland*

Software Developer — *May 2023 - Present*

- Streamlined the software release process by implementing robust **CI/CD pipelines** using **Jenkins** and **Octopus**. Automated build, test, and deployment processes, resulting in a **25% reduction in release cycle time**.
- **Improved test execution efficiency by 30%** through the implementation of **Selenoid**. **Sonar**'s code quality analysis led to a **10% reduction in code defects**, resulting in improved software reliability. **Citrix** ensured secure remote access, **reducing troubleshooting time by 15%**.
- Achieved a **25% reduction in system downtime** by proactively identifying and addressing issues through the centralized monitoring and logging capabilities of the **ElasticSearch** stack. Custom dashboards and alerts helped **decrease mean time to resolution by 20%**.

Tinkoff — *Moscow, Russia*

Software Developer — *Sep. 2021 - May. 2022*

- Developed a **microservice** infrastructure using a custom **pipeline** framework and automated testing service, achieving a **20% reduction in deployment time**.
- Collaborated with the SRE team, resulting in a **20% decrease in system downtime** and a **30% reduction in incidents** through improved server reliability and code reviews of legacy code.
- By eliminating side effects and improving reliability and performance using **Scala pure functions**, led to a **25% increase in system stability** and **efficiency**.

Acronis — *Singapore*

Research intern — *Sep. 2020 - Aug. 2021*

- Theoretically described and implemented the **garbage collection** algorithm in **search engines**, using **bitmap**-indexes and **LSM** trees written in **Golang**.
- Achieved a **1.5x reduction in search time** and **improved system performance by up to 70%**. The garbage collection process operates approximately $\mathbf{10^5}$ **times faster** than original algorithm, effectively optimising the overall search engine performance.

Education

SIT(Schaffhausen Institute of Technology, Constructor) — *Moscow, Russia*

MSc in Computer Science and Software Engineering — *Sep. 2021 - Jun. 2023*

- GPA: 5.8/6
- Major: Computer Science

MIPT(Moscow Institute of Physics and Technology) — *Moscow, Russia*

MSc in Applied Mathematics and Physics — *Sep. 2021 - Jun. 2023*

- GPA: 4.9/5
- Major: Financial technology in business

MIPT(Moscow Institute of Physics and Technology) — *Moscow, Russia*

BSc in Applied Mathematics and Physics — *Sep. 2017 - Aug. 2021*

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

Skills

Programming	Scala, Python, Java, Golang, SQL, C++, Groovy
Quantitative	Linear algebra, Discrete mathematics, Algorithms, Probability theory, Optimisation
Tools	Git, Jenkins, Octopus, Gitlab CI, Docker, Jira, ElasticSearch, Latex
Languages	Ukrainian – native, English - C2, German – B2

Projects

AI-Driven Analysis of Calcularis Student User Data *Python*

Data scientist *2023*

- Conducted clustering analysis on low-performing student data, **identifying distinct clusters** indicating different engagement levels and potential challenges.
- Achieved **90% F1 score** by predicting low-performing student clusters.
- Analysed the impact of learning time, achieved **90% F1 score** after **50 minutes** of training, highlighting the model's ability to differentiate between students needing extra attention and those with lack of effort as a factor.

Booking web application for laundries in households in Switzerland *Python*

Project manager *2022*

- **Start-up** project for the cohort 2021 at Schaffhausen Institute of Technology.
- Create project plans to **fit stakeholder and customer needs** and deliver with-in budget on desired outcomes. **Define project roles and responsibilities** in close collaboration with the Product owner, including project scope and objectives to ensure a cross-functional understanding amongst project members.
- Developed and **implemented project roadmaps and business canvas**, led key stakeholder engagement and accountability, and communicated project status with relevant stakeholders.
- Developed and implemented **predictive models** and dashboards to monitor progress, provide updates to stakeholders, and **deliver recommendations to users**.

Garbage collector in search engines *Golang*

Core Member *2021*

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

Model of a distributed system *Golang*

Core Member *2021*

- Implemented the **infrastructure** that allows to create models of **distributed processes**.
- Written fully in **Golang** 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 *Python*

Member *2020*

- 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.

Computational mathematics *C, C++*

Core Member *2020*

- Integration using trapezoidal rule (on OpenMPI and OpenMP).
- Solution of the heat equation (on OpenMPI and OpenMP).
- Bignum arithmetic (on OpenMPI).

B-tree *C++*

Core Member *2020*

- B-tree realisation. This tree is a self-balancing tree data structure that maintains sorted data and allows searches, sequential access, insertions, and deletions in $\mathbb{O}(\log(n))$.

Multithreaded list *C++*

Core Member *2020*

- Stack is implemented with two-way adding methods $push\_front()$ and $push\_back()$ and front deleting $pop\_front()$.
- By using $Iterator$ we implement range based loop for our list or output it with output function.
- To check ABA problem was implemented swap methods with sleep and yield realisations $swapSleep$ and $swapYield$ respectively.
- Deleting is implemented with $Hazardpointers$.

Website for programming contests (Judex) *Golang*

Core Member *2019*

- Judex is a system for **automatic testing** for student contests.
- Backend is written fully in **Golang**, 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.

Command-line interpreter (Microshell) *C++*

Core Member *2018*

- Microshell provides most of commands, contained in bash.
- Syntax is the same as in other implementations of UNIX shell, with regular expressions, pipes, input-output redirection and standard notation available.
- Microshell interacts with operating system by a set of UNIX system calls and supports signals and multiprocessing.

Extracurricular Activity

Zurich helps Ukraine *Zurich*

Core Member *Mar. 2022 - PRESENT*

- Non-profit association created in Zurich by volunteers, who are driving non-profit events to support refugees from Ukraine.
- Collecting, sorting and distributing of humanitarian aid.

Cultural Education Project Druzi *Zurich*

Member *Sep. 2022 - PRESENT*

- A cultural and educational project for children from Ukraine living in Zurich because of the war.
- Organize various activities: courses, workshops, guided tours, summer camps and many more.

Libereco *Zurich*

Member *Nov. 2022 - PRESENT*

- Company helps people in need who are in trouble through no fault of their own.
- Collecting, sorting, distributing and sending the humanitarian aid to the Ukraine.

Program Committees

MIPT **SMM department leader**, Institute trade union committee *2018 - 2021*

MIPT **Travel project manager**, Institute trade union committee *2019 - 2021*

MIPT **SMM writer**, University student council *2018 - 2021*

Sport Activity

Cheerleading European champion

Swimming I adult category

References

Manuel Oriol *manuel.oriol@gmail.com*

Associate Professor in Quantum Software Engineering & Schaffhausen Institute of Technology *+41765767064*

Lesia Nünlist *olesia.nuenlist@gmail.com*

Founder & "Zurich helps Ukraine" *+41787721822*