

PERSONAL INFORMATION

Sergei Volkov github.com/taranarmo gitlab.com/taranarmo www.linkedin.com/in/taranarmo **ORCID** [0000-0002-5385-1541](https://orcid.org/0000-0002-5385-1541)**Date of birth** Dec 16, 1990

WORK EXPERIENCE

Aug 2023 – Feb 2024

Data Scientist

Crocus Labs GmbH

Software development, Software architecture, Product design, Project management, Testing, Team leading

I was hired to build an ETL for collecting data from smart lamps for greenhouses. However, upon my arrival, a complete redesign of the AWS architecture was necessary. I set up CI/CD for the frontend, wrote build instructions for many components, and learned how to set up and deploy various AWS services (API Gateway, DynamoDB, IoT Core, Amplify, etc.). In parallel, I developed a simple Python app to calculate light density from the lamp as a sum of LED chips based on lamp geometry and LED chips' ray files. During the design of the AWS architecture, I also participated in database design. Just before the implementation of the new AWS structure, the company decided to move to a self-hosted solution due to weak network coverage on farms, thus canceling the AWS implementation. I created a prototype of a Linux host with containers communicating via IoT to mimic lamps, but the company decided to cancel the development of smart lamps and focus on creating their own LED dies. Since I was still on probation, my employment was terminated.

Jun 2021 – Mar 2023

PhD Student

Leibniz-Institut für Gewässerökologie und Binnenfischerei (IGB Berlin)

Research design, Data processing, Fieldwork, Linux systems administration, DevOps

I was hired to contribute to joint research on biomass sinking in turbulent stratified environments. I deployed probes, collected and processed data, and participated in biological field and lab work. The main activity was managing and using a stereoscopic video recorder and the MATLAB package for video processing. The package was initially non-functional with obscure code and dependencies on an outdated OpenCV interface. I used Docker to build an environment with MATLAB, compiled all components (including OpenCV with custom build flags), and translated the GUI with an X server on the host machine. Falling behind schedule for a successful thesis defense, I decided to quit.

Oct 2020 – Feb 2023

Data QA

Playrix

Data analysis, Validation, ETL design, Manual and automated QA

I was responsible for the data quality of new tables created by the data engineering team and data migration to the new ETL and DBMS. I verified Tableau dashboards based on game/product data and some based on marketing data. Writing complex SQL queries processing millions of rows was my daily routine. I led a small team of QA engineers, distributed and prioritized tasks, and provided onboarding and mentoring.

Mar 2020 – Oct 2020

QA Engineer

Playrix

Manual QA, Automation, Teaching, Testing documentation writing, MitM traffic sniffing, Statistical analysis

Nov 2019 – Feb 2020

Data Analyst

Playrix

Data analysis, Automation, User tracking events design, Reporting and presenting to stakeholders
SQL, Python, Analytics, DataViz, Big Data

May 2016 – Jul 2020

Teaching Assistant

Petrozavodsk State University

Educational program design, Lecturing, Teaching
Thermodynamics, Heat transfer, and other courses

Jan 2016 – now

Research Assistant

Northern Water Problems Institute

Data analysis, Fieldwork, Experiment design, Data processing frameworks development, Academic writing, editing, and typesetting

EDUCATION AND TRAINING

2010 – 2015

Specialist Degree in Energy Supplies

Petrozavodsk State University

PERSONAL SKILLS

Mother tongue Russian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
German	B1	B1	A2	A2	B1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills

- Presenting
- Communicating with stakeholders
- Public speaking
- Teaching/Mentoring
- Feedback sharing
- Active listening
- Remote team building

Organisational / managerial skills

- Agile, Kanban, Scrum
- Managing small teams of developers
- Task management and distribution
- Project management

Digital competences

SELF-ASSESSMENT				
Information Processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

[Digital competences - Self-assessment grid](#)

- Computer skills**
- **Development:** *Python:* NumPy, Pandas, SQLAlchemy, Matplotlib, concurrency, Plotly
SQL: Analytic/window functions, query optimization
Data: Spark, Snowflake, Tableau, Looker, Plotly Dash, Spreadsheets
NoSQL: DynamoDB, MongoDB
Linux: Bash, system management, SSH, Nix
Containers: Docker, systemd-nspawn, LXC, Kubernetes, chroot
General: Git, Vim, Emacs, Jupyter
CI/CD: GitHub Actions, TeamCity, GitLab
Cloud: AWS, GCP
Typesetting: Markdown, LaTeX, Pandoc
Other: Julia, MATLAB, minor knowledge of JS, C/C++
 - **Analytical:** AB test design and analysis
Cohort analysis
Time-series analysis
Descriptive and inferential statistics
Machine learning basics
Data wrangling
 - **Research:** *Fieldwork:* Organizing, sampling, working with probes, logistics, hand and power tools
Writing: Academic writing, editing, publishing, proofreading
Data processing: Writing ad-hoc frameworks, automation, visualization

CERTIFICATIONS AND LICENSES

Driving licence **European Driving License: B, C**

2017 **Machine Learning**

Stanford University on Coursera

Certificate available at <https://www.coursera.org/account/accomplishments/verify/U4VGJWXFGMS9>

ADDITIONAL INFORMATION

Projects

2015 – 2017 **Lake Onego: Life Under the Ice**
NWPI

2021 – 2023 **Lake Pycnoclines Trap Organic Particles Forming Hot Spots of Accelerated Carbon Cycling in the Water Column (PycnoTrap)**
IGB Berlin

Voluntary

2013 – 2015 **Garbage Collection**
On multiple sites near Onego Lake - Petrozavodsk, Russia

2011 – now **OpenStreetMap**
Data surveys and contribution - Republic of Karelia, Russia

Thesis

2015 **Noniterative Heat Exchanger Calculation**

Supervisor: Professor Sergei Bogdanov

The thesis proposes a direct analytical calculation procedure for heat exchanger design, avoiding the use of optimization algorithms

Publications

- 2021 **Full Reynolds Stress Tensor of Convective Turbulence Estimated with Paired Acoustic Doppler Current Profilers**
S. Bogdanov, G. Kirillin, S. Volkov, G. Zdrovennova
- 2019 **Fine scale structure of convective mixed layer in ice-covered lake**
S. Volkov, S. Bogdanov, R. Zdrovennov, G. Zdrovennova, A. Terzhevik, N. Palshin, D. Bouffard, G. Kirillin
- 2019 **Under-ice convection dynamics in a boreal lake**
D. Bouffard, G. Zdrovennova, S. Bogdanov, T. Efremova, S. Lavanchy, N. Palshin, A. Terzhevik, L. Vinnå, S. Volkov, A. Wüest, R. Zdrovennov, H. Ulloa
- 2019 **Structure and dynamics of convective mixing in Lake Onego under ice-covered conditions**
S. Bogdanov, G. Zdrovennova, S. Volkov, R. Zdrovennov, N. Palshin, T. Efremova, A. Terzhevik, D. Bouffard
- 2018 **Albedo of a Small Ice-Covered Boreal Lake: Daily, Meso-Scale and Interannual Variability on the Background of Regional Climate**
G. Zdrovennova, N. Palshin, T. Efremova, R. Zdrovennov, G. Gavrilenko, S. Volkov, S. Bogdanov, A. Terzhevik

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