Mihael Tunik

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https://github.com/mihael-tunik/

About me

Programmer with versatile experience in IT and computer science. I do believe that modern scientific research process requires significant programming skills. Seeking a position as a developer-researcher to enhance my career growth.

Education

2013 — 2017 **Bachelor degree**, *Saint-Petersburg*, Peter the Great St.Petersburg Polytechnic University, departament of applied mathematics and mechanics.

2017 — 2019 **Master degree**, *Saint-Petersburg*, Peter the Great St.Petersburg Polytechnic University, departament of applied mathematics and mechanics.

Master thesis

2019 **Special kernel density estimator for finite sample size conditions**.

Work is dedicated to research of theoretical accuracy of statistical kernel density estimator of special type for finite sample size conditions.

Experience: 4 years

august 2019 — now **Saint-Petersburg State University, Chebyshev Laboratory**, *engineer-researcher*.

- Team work on developement of statistical instruments for geo-data analysis and seismic inversion. There we extensively used various Gaussian process based regression models (for example, multi-output GP or sparse GP) and various technics for data-processing. Also I helped with research for relevant scientific articles and automated several research pipelines.

- Development MVP for the tool for fine-tuning advanced hydrodynamic simulations in Dumux with Bayesian optimization techniques. Here I also was responsible for building custom UI with PyQt5. Among other things as a researcher I took part in implementing experimental software for solving Riemann problems, which appear in porous media hydrodynamics.

- Last but not least, I take part in local LMS maintaining/management, where my job responsibilities include system administator and devops tasks.

Skills

Programming languages: Python, C/C++, SQL, R and Javascript;

Mathematical background:	Mathematical statistics and probability theory (random functions and fields), linear algebra, calculus.
Computer science background:	Standard course of algorithms and numerical methods, various optimization methods, statistical data analisys, ML: regression of all types, table data classification.
More information and keywords:	○ General purpose skills: – Many years of experience with different **Linux** distributions, system configuration, terminal (bash, Unix commands); – **Git** VCS, managing repositories in **Bitbucket** and **GitHub** (pull-requests, Github Actions CI, reviews), **Notion** for task-tracking; – Remote access via **ssh**, familiar with **Docker** and **docker-compose**; – Extensive experience with **Python** toolchain and ecosystem: building up Python packages from scratch with **setuptools**, managing packages and project installations with **venv** or **Anaconda**; ○ Experience as engineer-researcher: – Work on project sketches in **Jupyter Notebooks** and **Google Colab**; – Work skills with **Pandas** and sklearn, experience with GPFlow, **GPy** for work with Gaussian Processes, **botorch** for Bayesian optimization, gradient boosting with **CatBoost**; – Advanced work with **LaTeX** for scientific texts and presentations; ○ Some experience from desktop-dev: – UI development with **PyQt5**, Qt Creator IDE, PyInstaller for bulding binaries; – Experience in writing detailed documentation for code and UI, building auto-generated Excel reports with openpyxl; ○ Some experience from web-dev: – Some experience from backend: HTTP protocol, **Django** ecosystem (ORM, REST Framework), Nginx and databases like PostgreSQL, SQLite, Redis at a level sufficient to develop inelaborate microservice completely from scratch; – Some experience from frontend: HTML, CSS/SCSS, basic knowledge of Javascript ecosystem (npm, React.js, ...); ○ Some experience with C/C++ (parallel computations with OpenMP, make-files and CMake, building small .so libs), linking C++ and Python via **Ctypes**;

Languages

Russian Native speaker

English Upper-Intermediate

Online courses

Stepik October 2022 ***Hadoop. System for big data processing.***

Learned basic things about Hadoop ecosystem, including HDFS and MapReduce.

Result: certificate with distinction, >90% score.

Stepik January 2023 ***Apache Airflow for analysts.***

Learned basic things about Apache Airflow, DAGs and ETL in general.

Result: certificate.