

Sanjar Adilov | Curriculum Vitae

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ML Software Engineer w/ 7 years of experience, BSc in Applied Math and Computer Science. Broadly interested in machine learning, esp. efficient and reliable deep learning for natural language processing. Working on full-stack research and development of conversational AI experiences. Also have research experience in machine learning for computational chemistry, such as molecular representation learning.

Employment

Data Scientist

Alif Tech

Aug 2022 – Present

Tashkent, Uzbekistan

- End-to-end development of task-oriented, closed-domain AI assistants for automation of customer experiences. Responsibilities include data curation, modeling, evaluation, operationalization, and maintenance. Some of the specific concepts are parameter-efficient fine-tuning, contrastive learning, named-entity recognition, and resource-efficient & scalable deployment of DL pipelines. The major results are 68-72% of *containment rate* w/ $\approx 97\%$ coverage of chats through all contact channels in ≤ 2 seconds of *response time* and estimated $\approx 90\%$ of *end-to-end accuracy*, incl. 48-65% of *task success* 😊. Whew!
- Little bit of backend and/or modeling for document OCR, credit scoring, transaction fraud monitoring, and domain-specific topic modeling.

Research Engineer II

Romanovsky Institute of Mathematics, Academy of Sciences of Uzbekistan

Jan 2021 – Aug 2022

Tashkent, Uzbekistan

Adapting deep learning for drug design by building a unified framework for downstream generative and supervised molecular tasks via large-scale causal transformers (see, e.g., smiles-gpt).

Research Assistant

Romanovsky Institute of Mathematics, Academy of Sciences of Uzbekistan

Jan 2019 – Dec 2020

Tashkent, Uzbekistan

- Single-/multi-output tabular classification of high-dimensional molecular data (see, e.g., sparse-chem1).
- Improvement of SOTA generative molecular models (see, e.g., moleculegen).
- Survival analysis of patients with COVID-19 in Uzbekistan.

Research Engineer I

Romanovsky Institute of Mathematics, Academy of Sciences of Uzbekistan

Sep 2018 – Dec 2018

Tashkent, Uzbekistan

ML for low-data QSPR/QSAR modeling using graph neural networks and traditional, sparsity-aware models (see, e.g., nitrocom-learning).

Intern

Misc.

Jun 2017 – Aug 2018

Tashkent, Uzbekistan

Several internships. Mostly bash scripting and basic frontend & backend development w/ Python and JavaScript.

Education

BSc in Applied Mathematics and Computer Science

Lomonosov Moscow State University in Tashkent

Sep 2014 – Jun 2018

Tashkent, Uzbekistan

- Main coursework includes pure & applied math, intelligent systems, and scientific computing in C/C++.
- Research and thesis on graph theory (coloring and planarity testing).
- Volunteer instructor at Math and Programming Club for prospective students.
- ACM-ICPC NEERC contestant.

Publications

Adilov, Sanjar (2021): **Generative Pre-Training from Molecules**. ChemRxiv. Preprint.

<https://doi.org/10.33774/chemrxiv-2021-5fwjd>

S.Sh. Adilov. **An upper bound for the chromatic number of graphs with given thickness and girth**. In *Intelligent systems. Theory and applications*, volume 22, issue 3, 2018.

And more in my **Google Scholar**: <https://scholar.google.com/citations?user=NzU1nAAAAAJ>

Skills

- **Programming Languages**: Python 🐍, Bash, SQL, \LaTeX , C, R.
- **Tools**: [DS] PyTorch 🔥, 🤗 Transformers & co., XGBoost 📈, Scikit-Learn, Pandas, etc.; [MLE] DVC, MLFlow, Git, Sanic, Docker, K8S.
- **Concepts & Practices**: Scientific Research, CI/CD, Scrum, OSSD, MLOps.

Misc.

- **Community Service**: Mentoring in hackathons (one has eventually become an integral part of our credit scoring ecosystem); public presentations on DL life cycle, foundational models, tabular learning, etc.
- **Side Projects**: scikit-fallback: machine learning w/ rejections (more on Medium and Github).
- **Hobbies**: Guitars, US & Soviet history, classic rock music, fiction books, old movies, swimming.
- **Languages**: Uzbek (native), Russian (full proficiency), English (TOEFL 108/120, 2024).