Curriculum Vitae

Bulat Maksudov

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Technical skills

- **Programming languages:** Python, Haskell, SQL
- **Libraries and frameworks:** PyTorch, Sklearn, Pandas, fastapi, Apache Airflow
- **Misc:** Linux, git, docker, Kubernetes, Graphana, Prometheus, Latex, DICOM

Education

August 2015— June 2019

Degree: Bachelor of Science in Computer Science
Where: Innopolis University, Innopolis, Russia
GPA: 3.5 of 4.0
Data science track

Education

September 2021— Current

Degree: PhD in Computer Science
Where: Dublin City University, Dublin, Ireland
GPA: N/A
Research topic: Explainable AI for Medical Images

Employment

June 2019— March 2020

Position: Researcher
Where: Artificial Intelligence lab, Innopolis University

Key responsibilities:

- Conduct experiments on application of AI models to various medical imaging domains
- Work in close collaboration with doctors to collect and label medical datasets from Russian hospitals.
- Write papers, grant proposals and grant reports

Key achievements:

- Created large dataset of Chest X-ray's and accompanying textual reports
- Successfully published research results in A* conferences

March 2020— July 2021

Position: Team lead
Where: Artificial Intelligence lab, Innopolis University

Key responsibilities:

- Lead a small team of researchers and developers to create a service for detect pathologies on a Chest X-rays using AI models
- Supervise undegraduate students during summer internships and semester projects
- Manage compute infrastructure of department, organize dataset storage and access in HPC environment.

Key achievements:

- AIRadiology service was successfully integrated in 100 hospitals in Moscow region.

July 2021— Current

Position: part-time Senior Datascientist
Where: Ozon, Russia

Key responsibilities:

- Create a Vehicle Routing Problem solver, that would satisfy business requirements
- Construct a traffic prediction pipeline to improve estimates of courier travel time for last mile delivery

Key achievements:

- Automated courier route construction to reduce cost per order of delivery
- Provided analytical support and dashboards

Teaching

Feb 2020— May 2020

Project: Semester project
Where: Innopolis University
Role: Project supervisor

- Supervised two teams of undergraduate students
- "Segmentation of abdominal aortic aneurysm on CT" 3D segmentation using U-net like architecture. Project was done in collaboration with Pirogov Medical Center.
- "Large scale label extraction from Russian x-ray reports" NLP methods to prepossess and extract diseases, accounting for negations.

May 2020— Aug 2020

Project: Summer internship supervisor
Where: Innopolis University
Role: Supervisor

- Supervised individual undergraduate students.
- Resulting code was integrated in research pipeline

- Projects:"Super resolution for medical imaging","Finetuning Chest X-ray classifiers on private datasets","Histogram matching for Chest X-rays"

Selected publications

- B Maksudov et al. "Automated Localization of Lung Nodules from Chest X-rays With Deep Neural Networks". In: *International Journal of Radiation Oncology, Biology, Physics* 108.3 (2020), e294
- M Kholiavchenko et al. "Adopting Confident Learning to Eliminate Uncertainty in Chest X-ray Images for Lung Nodules Prediction". In: *International Journal of Radiation Oncology, Biology, Physics* 108.3 (2020), e338
- EA Voloshin et al. "Increase of efficiency of relay protection reliability in modes with deep saturation of current transformers using the methodology based on the application of artificial neural networks". In: *2018 International Youth Scientific and Technical Conference Relay Protection and Automation (RPA)*. IEEE. 2018, pp. 1–14
- Ilya Pershin et al. "Artificial Intelligence for the Analysis of Workload-Related Changes in Radiologists' Gaze Patterns". In: *IEEE Journal of Biomedical and Health Informatics* (2022), pp. 1–10. DOI: 10.1109/JBHI.2022.3183299
- Vladislav Kurenkov and Bulat Maksudov. *Guiding Evolutionary Strategies by Differentiable Robot Simulators*. 2021. DOI: 10.48550/ARXIV.2110.00438. URL: https://arxiv.org/abs/2110.00438
- Imad Eddine Ibrahim Bekkouch et al. "Multi-landmark environment analysis with reinforcement learning for pelvic abnormality detection and quantification". In: *Medical Image Analysis* 78 (2022), p. 102417. ISSN: 1361-8415. DOI: https://doi.org/10.1016/j.media.2022.102417. URL: https://www.sciencedirect.com/science/article/pii/S1361841522000688