Uran Maimekov

CV/Resume

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UranMai

Education

2019–2021 **Moscow Institute of Physics and Technology,** Dolgoprudny, Russia,
Master in bioinformatics, Department of Bio–Medical Physics
Thesis: *Graph-based assessment of the structural significance of aminoacid residues*

2015–2019 **Moscow Institute of Physics and Technology,** Dolgoprudny, Russia,
Bachelor in biophysics, Department of General and Applied Physics
Thesis: *Studying the influence of the antioxidants on mitochondria health under oxidative stress conditions*

Research and Work Experience

2019–2021 **Research fellow, Scoltech iMolecule, MIPT, Moscow, Russia**
– Prepared scripts for describing protein structure (PDB) as a graph (nodes-acids, edges-bonds)
– Implemented molecular dynamics (Gromacs) to take trajectory of protein
– Analyzed and run scripts on trajectory frames (Python, R, bash)

summer 2019 **Intern, IST Austria, Vienna, Austria**,
Sazanov group: Structural biology of membrane protein complexes
– Studied the cryo-EM methods to analyze micrographs
– Developed and optimized particle picking processing on cryo-EM micrographs using neural network-based TOPAZ and crYOLO programs
– Prepared Python and bash scripts to analyze data and visualize Ramachandran plots

2018–2019 **BSc qualification work, MIPT, Dolgoprudny, Russia**
– Prepared cells and incubated with dyes under oxidative conditions
– Analyzed cells using fluorescent microscopy and flow cytometry methods

summer 2017 **Intern, MIPT, Dolgoprudny, Russia**,
Laboratory of Ion and Molecular Physics
Research project: The application of tandem mass spectrometry to identify molecular biomarkers for early diagnosis of Alzheimer's disease

2021 **Work in international office at MIPT**, Dolgoprudny, Russia
Consulted and helped international students in physics

Organisator of MIPT olympiads, Bishkek, Kyrgystan
Organised MIPT olympiads in mathematics and physics

spring 2016 **Maxwell Olympiad in Physics, MIPT**, Sochi, Russia
Student-jury and assistant of experimental part of olympiad

Conferences, schools and competitions

October 2021 **EVRAZ AI challenge**, ML competition organized by EVRAZ
Detect people on images who in danger zones of factory

July 2020 **Summer online school: AI for medical images**, Innopolis, Kazan, Russia

August 2020 **Poster session: "Particle picking optimisation in cryo-EM images"**, IST Austria

2019 **Intenational school: Modern cryoelectron microscopy**, Dolgoprudny, Russia

November 2018 **61st MIPT Scientific Conference**, Dolgoprudny, Russia

2018 **Biomembranes-2018**, International Conference, MIPT, Dolgoprudny

Awards

2015 **46th IPhO**, International Physics Olympiad , Mumbai, India
2015 **16th APhO**, Asian Physics Olympiad , Hangzhou, China
2015 **1st place**, National Physics Olympiad, Bishkek, Kyrgyzstan
2014 **15th APhO**, Asian Physics Olympiad, Singapore, Singapore
2014 **2nd place**, National Physics Olympiad, Bishkek, Kyrgyzstan

Pet Projects

1. **Summer online school (by Innopolis):** "AI for medical images"
   – Studied the principles of medical imaging
   – Classification of frontal and lateral CT scans
   – Image segmentation on medical images
2. **Prediction of molecules' binding affinities**
   – Represented molecules as a set of RDKit descriptors
   – Built Message Passing Neural Networks (MPNNs) based on descriptors and predict the binding scores of molecules
3. **Covid19 spread-map** [Github]
   – Collected data of Covid19 cases over regions
   – Used Python libraries: Plotly and Folium to visualise it over time
4. **IMDB movies rating prediction** [Github]
   – NLP task. Built model to predict the rating of movies based on their reviews
   – Used Flask to deploy model.

Technical Skills

Programming Python (PyTorch, Scikit-learn etc.), LaTeX, bash, R, Git

Languages

Kyrgyz Native
Russian Fluent
English Upper-Intermediate (TOEFL - 98)