

Aidin Biibosunov

Curriculum vitae

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Education

- Oct 2019 – Dec 2022** – **M.S. in Mathematics**, *Technical University of Munich*, Munich, Germany
Thesis: Deep Learning Empowered Analysis for High Content Screening
Paper: CellDeathPred: a deep learning framework for ferroptosis and apoptosis prediction based on cell painting
- Sep 2017 – Nov 2018** – **Completed coursework towards M.S.**, *Novosibirsk State University*, Novosibirsk, Russia
In program: Physics of atoms and molecules
- Sep 2013 – Jun 2017** – **B.S. in Physics**, *Novosibirsk State University*, Novosibirsk, Russia
Thesis: High precision quantum chemical calculations of kinetics of primary reactions of thermolysis of nitroalkenes

Experience

- Oct 2022 – Present** – **Research assistant**, *Differentia Bio*
Computational Modeling of Immunology
 - performed disease modelling and in silico perturbations
 - took part in the development of a mechanistic model of the circulating immune system for IgG4-RD to inform therapeutic targetsAdvisor: Ph.D Atefeh Kazeroonian
- Mar 2022 – Sep 2022** – **Research assistant**, *Institute for Medical Microbiology, Immunology and Hygiene of TUM*
Machine learning (ML) methods in biology
 - worked with high dimensional data
 - associated Bulk RNA-Seq data with various clinical outcomes of experiments with miceAdvisor: Ph.D Atefeh Kazeroonian
- Apr 2021 – Aug 2021** – **Research assistant**, *Helmholtz AI*
Deep learning in High Content Screening (HCS) analysis
 - reproduced *these* results
 - used metric learning to classify microscopy cell imagesAdvisor: Ph.D Tingying Peng

- Jan 2021** – **Internship**, *Helmholtz Zentrum München*
- Mar 2021** Contributed to the implementation of scGen model into *scArches*
Advisor: Ph.D Mohammad Lotfollahi
- Nov 2020** – **Computational Pathology**, *Technical University of Munich*
Seminar at the department of mathematics
 - read and presented the *paper*
 - reproduced the results
 Advisor: Sophia Wagner
- Oct 2016** – **Lab assistant**, *Voevodsky Institute of Chemical Kinetics and*
- Nov 2018** *Combustion*, Laboratory of Mechanisms of Reactions
 - designed and performed experiments (computer simulations)
 - wrote reports
 Advisor: Vitaly G. Kiselev

Other work experience

- Dec 2022** – **Project Specialist: Satellite Data**, *MoveGreen*
- Feb 2023** Worked on a project for **MoveGreen** for satellite data processing and methane monitoring in Bishkek
 - obtained and decoded methane observation data from satellites (Sentinel-5P Copernicus, TROPOMI)
 - created **tables**, and **maps** based on processed satellite data

Skills

- Programming Languages: Python (NumPy, Pandas, PyTorch), R, Matlab, SQL
- Tools: Git, L^AT_EX, Emacs, Vim

Teaching

- Sep 2025** – **Mentor in Data Science**, *AI Academy*
- Present** I'm providing mentorship in Data Science for beginners: university students and industry professionals from other fields
 - guiding listeners through practical exercises and project-based learning
- Sep 2025** – **Math Teacher**, *Novopokrovka middle school 3*, village Novopokrovka
- Jun 2026** As part of the ***Teach for Kyrgyzstan*** program
- Sep 2024** – **Math and Physics Teacher**, *Ber-Bulak middle school*, village Ber-Bulak
- Aug 2025** I joined *Zamanbap Mugalim* (***Teach for Kyrgyzstan***) program aimed at improving educational equity and teacher leadership in rural schools. Teach for Kyrgyzstan is a part of the global network *Teach For All*
 - focused on supporting underperforming and challenging students
 - conducted sociometric and referentometric assessments in the class

Sep 2023 – Introduction to Programming, Compass College of Art
Feb 2024 & Design, Bishkek

I designed and taught a beginner-level *Introduction to Programming* course integrating Python with applied physics examples ([link](#))

- prepared lecture notebooks and problem sets
- graded assignments and provided feedback

———— Conferences

Oct 2025 – Symposium on ICT and AI in education for Central Asian countries, Iran, and Pakistan (UNESCO Almaty)

Participated in the discussion on how AI and ICT can empower higher education institutions with digital competencies and skills

Aug 2025 – Climate Education Bootcamp

Countries across Central Asia face similar climate challenges: shrinking glaciers, water shortages, desertification, floods, air pollution. So the goal was to strengthen climate leadership and regional cooperation

Apr 2018 – 56th International Scientific Student Conference

Theoretical study of the new thermal decomposition channels of aliphatic and aromatic nitro compounds

———— Awards

- **Oct 2025:** Winner of the **Dive Into Silicon Valley** competition.
My product **Aqcha**: expense tracker & receipt scanner app. Prize was a 14-day trip to Silicon Valley for mentorship, expert guidance and visits to top companies
- **Feb 2013:** Russian Board of School Olympiads, Prize Winner in Physics

———— Languages

- English: Fluent
- German: Beginner
- Russian, Kyrgyz: Native