

# Aidin Biibosunov

## Curriculum vitae

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### Education

- Oct 2019 – M.S. in Mathematics, Technical University of Munich,**  
**Dec 2022** 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 – Completed coursework towards M.S., Novosibirsk State University, Novosibirsk, Russia**  
**Nov 2018** Novosibirsk, Russia  
In program: Physics of atoms and molecules
- Sep 2013 – B.S. in Physics, Novosibirsk State University, Novosibirsk,**  
**Jun 2017** Russia  
Thesis: High precision quantum chemical calculations of kinetics of primary reactions of thermolysis of nitroalkenes

### Experience

- Oct 2022 – Research assistant, Differentia Bio**  
**Present** 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 – Research assistant, Institute for Medical Microbiology, Immunology and Hygiene of TUM**  
**Sep 2022** 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 – Research assistant, Helmholtz AI**  
**Aug 2021** 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 resultsAdvisor: Sophia Wagner
- Oct 2016** – **Lab assistant, Voevodsky Institute of Chemical Kinetics**
- Nov 2018** and **Combustion**, Laboratory of Mechanisms of Reactions
  - designed and performed experiments (computer simulations)
  - wrote reportsAdvisor: 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<sup>A</sup>T<sub>E</sub>X, 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**  
As part of the *Teach for Kyrgyzstan* program

**Sep 2024 – Math and Physics Teacher, Ber-Bulak middle school, village Ber-Bulak**

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