

# 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

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### 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 targets  
Advisor: 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 mice  
Advisor: 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 images  
Advisor: 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*
- Nov 2018** *and 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<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
- Present** Novopokrovka  
 As part of the *Teach for Kyrgyzstan* program

**Sep 2024 – Math and Physics Teacher, Ber-Bulak middle school, vil-**  
**Aug 2025** lage 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

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## 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

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## 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

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## Languages

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