

# Aidar Alimbayev

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🌐 [aidaralimbayev.github.io](https://github.com/aidaralimbayev) • [in](https://www.linkedin.com/company/aidar-alimbayev) [aidar-alimbayev](https://www.linkedin.com/company/aidar-alimbayev) • [AidarAlimbayev](https://www.youtube.com/channel/UCv33333333333333333333)

Google Scholar Profile

## Research Interests

Machine Learning, Material Science, Quantum Physics, Graph Neural Networks, Physical Informed Neural Networks, Healthcare Informatics, IoT Systems, Embedded Systems Design

## Education

**Mohammed bin Zayed University of Artificial Intelligence**

**Abu Dhabi, UAE**

*PhD in Machine Learning*

*2024–current*

Thesis: *Materials Science and Machine Learning* | Supervisor: Dr. Martin Takac

**The Bonch-Bruевич St. Petersburg State University of Telecommunications**

**Russia**

*Master in Technologies*

*2015–2017*

Department of Radiotechnologies of Communication

**S. Seifullin Kazakh Agro Technical Research University**

**Astana, Kazakhstan**

*Bachelor in Technologies*

*2010–2015*

Radio Engineering, Electronics and Telecommunications

## Research Experience

**Texas A&M University**

**Texas, USA**

*Visiting Scholar*

*Aug–Dec 2022*

Department of Electrical & Computer Engineering | Advisor: Prof. Ulisses Braga-Neto

- Developed Physical Informed Neural Networks (PINNs) for complex systems
- Implemented Stacked Generalization with Particle Swarm Optimization
- Funded by the Shakhmardan Yessenov Foundation

**Ministry of Education & Science Research Grant**

**Kazakhstan**

*Research Assistant*

*Aug 2021–Dec 2022*

Project: *Epidemiology and Forecasting of Infectious Diseases Using Healthcare Data and ML*

- Prepared and analyzed large-scale healthcare datasets
- Evaluated ML algorithms for disease prediction and mortality forecasting

**The Bonch-Bruевич St. Petersburg State University**

**Russia**

*Leading Researcher*

*May 2016–Jun 2017*

Scientific and Educational Center "Technologies of Information-Educational Systems"

- Authored research papers, reports, and technical reviews on automation systems
- Developed devices, test stands, and conducted training courses

## Professional Experience

**Nazarbayev University, PI "NURIS"**

**Astana, Kazakhstan**

*Electronics Engineer*

*Jun 2018–Aug 2021*

- Designed and assembled circuits for simulation and verification testing
- Prepared PCB layouts with schematic capture and simulation
- Maintained documentation and procedural guidelines

**S.Seifullin Kazakh Agro Technical University**

**Astana, Kazakhstan**

*Teaching Assistant*

*Sep 2017–May 2018*

Department of Radio Engineering, Electronics and Telecommunications

- Supported faculty in course management and student engagement
- Led capstone projects for graduating students
- Enhanced learning experience through hands-on labs

**S.Seifullin Kazakh Agro Technical University**

*Engineer & Laboratory Manager*

Department of Energy

- Maintained electronic laboratories and equipment
- Assisted professors in coursework and laboratory sessions
- Provided cross-functional support for faculty and students

**Astana, Kazakhstan**

*May 2013–Aug 2015*

## Selected Publications

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**2023: Alimbayev, A.**, Zhakhina, G., Gusmanov, A., et al. "Predicting 1-year mortality of patients with diabetes mellitus in Kazakhstan based on administrative health data using machine learning." *Scientific Reports*.

**2022: Gusmanov, A.**, Zhakhina, G., Yerdessov, S., Gaipov, A., **Alimbayev, A.** "Review of the research databases on population-based Registries of Unified electronic Healthcare system of Kazakhstan (UNEHS)." *International Journal of Medical Informatics*.

**2021: Mirmanov, A.**, **Alimbayev, A.**, Baiguanysh, S., et al. "Development of an IoT platform for stress-free monitoring of cattle productivity in precision animal husbandry." *Advances in Science, Technology and Engineering Systems Journal*, 6(1), 501-508.

**2019: Mirmanov, A.B.**, Nabiev, N.K., **Alimbayev, A.S.**, Zhanturin, R.M. "Impact of IoT technologies on devices for determining the weight of cattle." *Trends in the development of science and education*, (55-3), 28-35.

**2017: Alimbayev, A.S.**, Uss, V.S., Mirmanov, A.B., Shumakov, P.P. "Test stand for prospective mobile power-supply sources." *2017 International Siberian Conference on Control and Communications (SIBCON)*, pp. 1-3. IEEE.

## Technical Skills

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**Programming:** Python (NumPy, Pandas, scikit-learn, TensorFlow), C/C++, MATLAB, Octave, Linux, Bash  
**Tools:** LaTeX, Simulink, LabVIEW, Jira, Git

**CAD & Design:** Altium Designer, EagleCAD, EasyEDA, Multisim, AutoCAD, Fusion 360

**Areas:** Machine Learning, Quantum Physics, Data Analytics, Embedded Systems, Electronics Design, IoT, Signal Processing

## Languages

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**Kazakh:** Native

**Russian:** Native

**English:** Fluent, IELTS 6.5

**Spanish:** Beginner

## Honors & Awards

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**2022:** Shakhmardan Yessenov Foundation Fellowship for visiting scholarship at Texas A&M University

## Personal Interests

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Rowing, Running (Marathon 42.2 km in 3:58), SwimRun, University Dragon Boat Team Manager