# BADERKO MAKAR

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## ABOUT ME

As a passionate 17-year-old Software Engineer, I leverage my interdisciplinary expertise in computer science, economics, and physics to bridge diverse perspectives and ideas of my colleagues in order to foster collaborative synergy and drive innovative solutions for impactful outcomes.

## SKILLS

**Technical Skills** Python, C++, SQL, Classic ML, Computer Vision, PyTorch, Gradient Boosting
**Languages** Russian - mother tongue, English - C1 (Cambridge certificate), German - B1, Italian - A1
**Interests** Finance, foreign languages, reading and photography

## RESEARCH

- Exploring Applications of State Space Models and Advanced Training Techniques in Sequential Recommendations: A Comparative Study on Efficiency and Performance - *ICOMP 2024 (peer-reviewed)*

## ACADEMIC ACHIEVEMENTS

**Computer Science and AI**

- National Statistics and Data Analysis Olympiad - Gold(2022), Silver(2023) and Gold(2024)
  Top-1 result (among my grade participants) in the theoretical section in 2022 and 2024
  *This is the most significant olympiad in data analysis in Russia*
- National Technological Olympiad in Artificial Intelligence - Gold(2025)
  Top-1 result (among my grade participants)
  *This is the most significant olympiad in AI in Russia*
- AIJ Junior Contest - Winner (1st place), Computer Vision case (2023), US$100 000 total prize fund
- Northern Eurasia Olympiad in AI - second best result in the Classic Computer Vision task (2025)

**Physics**

- Atomic Industry Physics Olympiad (Rosatom) - Winner(2024), top-12 in the country.

**Economics and Business**

- WEC Continental Economics Cup - 2nd place in Europe in Business Case Analysis section (scored 190/200) and a Bronze medal overall (2024)
- Moscow State University Championship in Economics - PwC Russia nomination awardee (2025)

Eligible for merit-based admission to Russia's top-tier universities (MIPT, HSE, ITMO, BMSTU)

## WORK EXPERIENCE

**Biometriclabs**
Backend Developer                                                      (July 2023 - August 2023)
- Created a high-performance codebase to connect the mathematical models written in C with the existing UI and the database of reports from sensors

**Biometriclabs**
Embedded Developer                                                      (June 2021 - August 2021)
- Built prototypes of innovative products with the Raspberry Pi, collected human heart rate data and converted it into the required digital format

Granted direct admission to internships in ML at largest russian banks (Sber and Tbank) for winning top corporate ML competitions (interview waived).

## PROJECTS

**Computer Science and AI**

- Machine learning model, that can use publicly available blockchain network data to prevent a transaction with a high risk of money laundering (GNNs and more)
- Amur tiger detection, segmentation and reidentification software for population size estimation
- Unwanted plants dataset collection, detection and segmentation software for farmers

**Economics and Business**

- Company reviews reliability evaluation for credit scoring using advanced mathematical modelling techinques using data about 15,000+ companies
- Governmental investment effectiveness evaluation and prediction based on overall economy performance using data about 200,000 companies
- Private investment regularity evaluation and prediction for brokerage recommender systems using data about 5000 clients