

# Behram ULUKIR

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## EDUCATION

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**Aalto University** Espoo, Finland  
**Master of Science in Machine Learning and Artificial Intelligence** 2024 - *Expected* 2026

- Relevant Coursework: Supervised Machine Learning, Bayesian Data Analysis, Deep Learning

**Aalto University** Espoo, Finland  
**Bachelor of Science in Data Science** 2021 - 2024

- Graduated with honours.
- Minor: Minor in Mathematics
- Thesis: Robustness to Model Misspecification in Bayesian Experimental Design

## WORK EXPERIENCE

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**Google Summer of Code** Espoo, Finland  
**Open-Source Developer, Stan** 05/2025 – 09/2025

- Working on the Stan, the leading software library for Bayesian machine learning on visual analysis of Bayesian models.
- Actively contributed to bayesplot, a package under Stan for visualising Bayesian models.
- Added new plots and functions to bayesplot by using ggplot2 and ggdist libraries to enhance explorative analysis of Bayesian systems.
- Worked on documentation and improving the experience of open-source beneficiaries.

**Aalto University** Espoo, Finland  
**Research Assistant, Probabilistic Machine Learning** 06/2024 – 09/2024

- Worked at Probabilistic Machine Learning group, on the topic of model misspecification in Bayesian experimental design.
- Bayesian Experimental Design on Mössbauer Spectroscopy:
  - Searched and classified academic papers on Bayesian models, experimental design, and model misspecification.
  - Deployed a simulation model on Mössbauer Spectroscopy.
  - Implemented a likelihood-free Bayesian method (LFIRE) to optimise the experimental design of Mössbauer shift detection.

**Aalto University** Espoo, Finland  
**Teaching Assistant; Machine Learning D (2022, 2023), Programming 2 (2023), Bayesian Data Analysis (2025)** 08/2022 – *Ongoing*

- Organized live exercise sessions, instructing students in their assignments on Python, R, and Scala development.
- Helped students to develop their own machine learning projects using Stan, scikit-learn, NumPy, and Pandas.
- Answered questions through online platforms so learning doesn't stop after the live sessions.
- Awarded "Teaching Assistant Group of the Year 2023" for Machine Learning D 2023 edition.

## SKILLS & PROJECTS

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**Technical Skills:** Python, PyTorch, Scikit-Learn, R, Stan, Scala, PostgreSQL, Git, Machine Learning, Bayesian Analysis, Deep Learning, NLP, LLMs, RAG

### Projects:

- S&P 500 Volatility Analysis: Bayesian Inference with ARCH, GARCH, and Stochastic Volatility Models ([repository](#))
- Interactive Biodiversity Dashboard for Reaktor ([repository](#))
- Sustainable and reliable LLM based on LangChain - Junction 2023 Hackathon Project ([repository](#))
- Sector-Based Stock Market Predictions with FedRelax ([repository](#))
- Match Excitement Rating with Machine Learning ([repository](#))
- Helsinki Vaccine Distribution Database in PostgreSQL ([repository](#))
- Scala Kanban Board ([repository](#))

**Languages:** Native in Turkish; Full Professional Proficiency in English, Intermediate Proficiency in Finnish, Elementary Proficiency in Arabic

## STUDENT ACTIVITIES

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### AaltoAI

Espoo, Finland

#### Board Member, Finance & Partnerships

08/2023 – 01/2025

- Orchestrated AaltoAI's efforts to reach and collaborate with new partners.
- Managed to get AaltoAI from a state of no partnerships to extensive, annually renewing partnerships with companies such as Microsoft, Smartbi, and DataCrunch.
- Administered single-time partnerships with companies IBM and HiQ.
- Oversaw all financial operations of AaltoAI.

### Data Guild

Espoo, Finland

#### Tutor

08/2022 – 11/2023

- Organised orientation week events with the Tutor committee.
- Helped students to have a smooth start at university.