

Behram ULUKIR

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EDUCATION

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

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

- Working on the Stan, the leading software library for Bayesian machine learning on visual analysis of Bayesian models.
- Actively contributing to bayesplot, a package under Stan for visualising Bayesian models.
- Adding new plots to bayesplot by using ggplot2 and ggdist libraries.
- Working 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

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

AaltoAI

Board Member, Finance & Partnerships

Espoo, Finland

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

Tutor

Espoo, Finland

08/2022 – 11/2023

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