

# MUHAMMED BERK ÖNDER

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## WORK EXPERIENCE

*P.I. Works*

**Machine Learning Engineer**

07 2022 - Present

- Created a Telco Chatbot/Assistant with LLM frameworks like Flowise and LangChain. It has 4 unique capabilities: it can retrieve information from the company's knowledge base, get tabular data from a database, manipulate and analyze that data, and visualize it.
- Developed a heatmap forecasting system that uses regression analysis to forecast network traffic volume based on data from football matches. Managed complete processes, including data cleaning, regression model selection, and evaluation. Improved the error rate on aggregate from the baseline method which had a %77 error rate, down to %0.75 error rate.
- Implemented Multivariate Anomaly Detection on streaming time series data to improve detection capabilities for various scenarios using Clustering algorithm, focusing on data preparation, model evaluation, and hyperparameter tuning.
- Created a method for synthetic data generation that enhances data granularity by 60 times, utilizing statistical techniques like Monte Carlo simulations.

*Sınav / Atabey*

**Physics Teacher**

09 2020 - 02 2022

- Developed ability to break down complex quantitative and theoretical concepts into clear, understandable explanations through teaching physics courses, facilitating knowledge transfer of sophisticated machine learning models.

## PROJECTS

**Steam Game Recommendation**

*Project Link:* <https://github.com/berkmonder/SteamGameRecommendation-Clustering>

- Built a game recommendation system using clustering techniques on Steam data. Recommends 10 similar games based on user preferences.

**Food Review Topic Modeling**

*Project Link:* <https://github.com/berkmonder/FoodReviewTopicModeling-Clustering>

- Implemented topic modeling using Latent Dirichlet Allocation (NLP) on food review data. Clusters reviews based on topics with more than %90 F1 score.

## EDUCATION

**İstanbul University**

MSc, High Energy and Plasma Physics **GPA: 3.63**

Graduation Date: 2024

BS, Physics **GPA: 3.31**

Graduation Date: 2021

Relevant Courses: Advanced Statistical Methods in Physics I/II, Numerical Methods and Applications in Physics I/II, Chaos: Theory and Applications, Calculus I/II/III, Differential Equations, Mathematical Methods, Programming I/II.

## SKILLS

Experienced Data Scientist with a background of building and deploying ML models in Telecommunication industry. | Expert in Python, SQL, Bash, Git, Docker, FastAPI, MLflow, Pandas/Polars, Scikit-Learn, TensorFlow, PyTorch.