Emre Çoban

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About Me

As an AI Engineer who graduated from Hacettepe University, I gained valuable experience through part-time internships at SisaSoft, TAI, and HAVELSAN. I also worked part-time at DATASCOPE AI, followed by a role as a candidate engineer and then as a full-time AI Engineer at HAVELSAN.

Education

Hacettepe University *Aug 2020 – Jul 2024*
BS in Artifical Intelligence Engineering

- GPA: 3.59/4.0 (transcript)
- **Coursework:** Data Structures, Algorithms, Data Science, Machine Learning and Deep Learning.

Experience

Candidate AI Engineer *Ankara, Türkiye*
HAVELSAN A.Ş. *Mar 2024 – Present*

- Conducted time series forecasting by exploring and implementing state-of-the-art methods.
- Worked on anomaly detection in sensor data, improving the accuracy of predictive models.
- Collaborated with the AI Engineering team to design end-to-end forecasting pipelines.
- Presented analysis and findings to stakeholders, driving data-informed decision-making.

AI Engineer & Founding Engineer *Ankara, Türkiye*
DataScope AI *Sep 2023 – Feb 2024*

- Developed AI-driven solutions, including a chatbot for ÇİMSA, as part of projects for TUBITAK and Sabancı.
- Led time series analysis for Sabancı Holding, contributing valuable insights to support predictive maintenance.
- Played a key role in the company's early stages and participated in the Sabancı ARF program.
- Accepted into the TUBITAK 1507 program, highlighting the impact and quality of project work.

AI Engineering Intern *Ankara, Türkiye*
HAVELSAN A.Ş. *Jul 2023 – Aug 2023*

- Worked on a 3D Scene Reconstruction project, enhancing skills in Computer Vision.
- Built a predictive maintenance pipeline in the Digital Twin department using time series analysis.
- Improved skills in PyTorch, MLOps, and OpenCV.

AI Engineering Intern *Ankara, Türkiye*
TURKISH AEROSPACE INDUSTRIES (TAI) *Nov 2022 – May 2023*

- Conducted time series analysis and anomaly detection in sensor data, improving accuracy of data insights.
- Enhanced skills in Data Science and Data Analysis using Seaborn, Pandas, Matplotlib, and Numpy.

AI Engineering Intern *Ankara, Türkiye*
SISASOFT BİLGİ TEKNOLOJİLERİ VE İNOVASYON A.Ş. *Jun 2022 – Aug 2022*

- Worked on a deep learning project detecting tree species, heights, and counts using satellite and UAV imagery.
- Gained insight into project pipelines and computer vision tasks.
- Improved skills in PyTorch, TensorFlow, and Deep Learning.

Projects

Bank Marketing Project - *Python, scikit-learn, numpy, matplotlib, seaborn* *View Code*

- Developed a Data Mining project based on a binary classification problem using a dataset from "data.world" containing banking data, including customer information such as marital status and education.
- Employed Data Science techniques to evaluate and inspect machine learning models, comparing them to obtain satisfying results.
- Tools Used: Python, scikit-learn, Pandas, NumPy

Question Generator *View code*

- Developed an NLP project aimed at generating questions given a context, in collaboration with a colleague.
- Initially implemented a seq2seq model using LSTM, later fine-tuning the T5 base model for improved performance.
- The model operates in two steps: generating possible answers through keyword extraction, and then generating questions based on the given answers using the attention mechanism.
- Tools Used: Python, TensorFlow, Hugging Face Transformers

Industry Cycles App

- Contributed to the Industry Cycles application, gaining proficiency in advanced time series forecasting techniques.
- Utilized this expertise to effectively predict year-over-year growth for specific industries for the next two quarters, enhancing the application's forecasting capabilities.
- Improved Skills: Time Series Forecasting

Smart Fridge *Project Website*

- Collaborated with the Food Engineering Department to design a model for detecting fruits and vegetables, identifying rotten parts, and tracking inventory.
- Utilized YoloV8 and fine-tuned ResNet-101 for detection tasks and analysis.
- Provided results showing quantity and percentage of rotten items in inventory to reduce food waste.
- Contributed to a European Union-funded project called "Wasteless" at the university.
- Gained hands-on experience in Computer Vision, Image Processing, and Model Deployment.

Surfing The Bitcoin Waves *View Code*

- Investigated the influence of various trader types (Global traders, top traders, automated bots, whale traders) on the Bitcoin market.
- Employed deep learning and machine learning techniques to analyze historical price data and factors affecting market fluctuations.
- Aimed to understand the impact of trader behaviors on the market and to identify strategies for regular traders to make informed decisions.
- Gained experience in financial market analysis, deep learning, and machine learning techniques.

Technologies

Languages: Python, C++, Java, SQL, NoSQL

Frameworks: PyTorch, TensorFlow, scikit-learn, LangChain, HuggingFace, Optuna, gymnasium, stablebaselines, LightGBM, CatBoost, XGBoost, Darts, Pandas, NumPy, matplotlib, seaborn, plotly

Tools: Git, Docker, PostgreSQL