Sena Durmaz

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Education

Aug/2020 - Jun 2025 **B.Sc. Software Engineering**, *Atılım University*, Ankara, Turkey,
Current GPA: 3.11/4.00

Work Experience

Oct 2025 – Dec 2025 **AI Development Specialist Assistant**, *The Blue Red*, Gaziantep Turkey
Involved in the design and development of the company's AI-based products, focusing on agent architecture, prompt optimization, and NLP-driven user interactions. Supported data pipeline planning, RAG setup, and API integrations to enhance system performance and contextual intelligence.

Aug 2024 - Sep 2024 **Intern**, *Cumhurbaşkanlığı İnsan Kaynakları Ofisi*, Ankara Turkey
Worked on a recommendation algorithm on classified videos contained within the database of CBİKO.

Nov 2023 - Dec 2023 **Internship**, *Özaltın Holding Software Team*, Ankara,Turkey
Working with FlutterFlow, back-end solutions with Google Cloud and developing a complex project.

Oct 2023 - Nov 2023 **Internship**, *TÜBİTAK*, Ankara, Turkey
Worked on a classified TÜBİTAK project.

Aug 2023 - Sep 2023 **Intern**, *OSB Teknokent*, Gaziantep, Turkey
Learned about databases and created a virtual database that is still in use.

Articles

DOI: 10.1109/UBMK67458.2025.11206903

Projects

- **SwarMind** Developed the image processing pipeline in a smart agriculture project using swarm-coordinated multi-drone systems. Fine-tuned the Segformer-B3 model on the LoveDA dataset to perform real-time semantic segmentation for farmland detection. Enhanced model performance through data augmentation, custom loss functions, and EMA techniques. The segmentation results were matched with aerial drone imagery to enable autonomous identification of cultivable areas.
- **Medical Image Classification with PathMNIST** PyTorch, CNN Developed a CNN model on the PathMNIST dataset using Google Colab. Tuned hyperparameters such as kernel size, dropout, and optimizers. The model was thoroughly evaluated using training-validation curves, classification report, and confusion matrix.
- **Liver Cirrhosis Patient Classification** Performed detailed feature engineering on the dataset. Compared deep learning and machine learning models; best performance on 3-class patient condition prediction was achieved by machine learning (41.8 test loss).

- **Recommendation and Classification Algorithm** Worked with KeyBERT on python to create a model that extracts keywords contained within transcript of a video. Video transcripts are generated with Kapwig. We insert these words on a Excel page then manipulate data to classify the keywords. Word is associated with classifiers to recommend user videos that is similar to whats being currently watched.
- **Data Analysis and Matrix Generation Script** Using Pandas and Numpy libraries in Python, I worked on a big dataset to read and manipulate the data on Excel format. Implemented a logic to populate a co-occurence matrix by counting occurrences where two categories appear consecutively in the same session.
- **Ongoing Project for Athletes and Coaches:"ATHLOS"** Worked with FlutterFlow to create a front end of a mobile app with a team of developers for an ongoing project for athletes and coaches that aims to track progress and diet of said athletes and uses OpenAI API to help them create diets and exercise programs and creates weekly graphs for easy tracking. This project is still in progress.
- **Common Machine Learning Algorithms** Created k-nearest neighbors, supervised learning, linear models, naive bayes classifiers, support vector machines, PCA, clustering etc. algorithms from scratch without using any libraries other than fundamental machine learning libraries of python.
- **Machine Learning Algorithm Evaluation With Real Data:** A program to compare how well an algorithm performs with given data. It compares the results with real data to check accuracy.

Skills

- **Programming Languages: C++, Python, C, Java**
- **CS Fundamentals:** Git, Object Orientated Programming, Data Structures, UML Drawing, BASH, Operating System Basics, Basic Software Testing
- **Experienced with:** PyTorch, TensorFlow, NLP (Transformers), Computer Vision (OpenCV), RAG, AI Agents, LangChain, FAISS, Vector Databases, Machine Learning, FlutterFlow
- **Operating Systems:** Linux, Mac, Windows
- **Natural Languages:** Turkish**[L1]**, English**[B2]**.

References

- **Çağrı Türker** Senior Swarm Intelligence Engineer
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- **Atilla Kürşat Akçay** Embedded Systems Engineer
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