YIGITCAN KIZIL

COMPUTER SCIENCE STUDENT

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PROFILE

My name is Yiğitcan Kızıl, and I am currently a second-year Computer Science student at Hacettepe University. I have a strong passion for AI, mobile app development, and machine learning. I work with Flutter and Ionic/Angular, and I am actively involved in image processing and deep learning projects. Additionally, I focus on algorithmic problem solving and optimization techniques, with the aim of creating technology that has a meaningful impact.

WORK EXPERIENCE

- **NEXIZON - Ankara(On-Site)**
  February 2025 - Present
  Software Developer Intern
  - I am currently interning at Nexizon, where I am working extensively on computer vision models, focusing on training and optimization techniques. Utilizing TensorFlow and PyTorch, I develop various models and optimize their performance through hyperparameter tuning. My efforts are aimed at balancing accuracy and processing time to enhance model efficiency. Additionally, I collaborate with the team on project-based tasks, contribute to code reviews, and present regular progress reports on our findings.
- **BLUESENSE - Canada(Remote)**
  February 2025 - March 2025
  Data Scientist and Artificial Intelligence Intern
  - In this job, I have been developing an advanced **chatbot** using **natural language processing** techniques and working on facial analysis through **image processing** methods. Additionally, I process facial image datasets, continuously optimizing AI models to enhance user interactions and improve facial recognition systems.

EDUCATION

- **HACETTEPE UNIVERSITY**
  2022 - PRESENT
  - Computer Science
  - GPA: 3.15 / 4.0

COMMUNITIES

- **ACM Hacettepe**
  2023 - PRESENT
  ACM Research and Development
  - I have worked on **machine learning** and **deep learning** projects, including the **TEKNOFEST** Flying Car Simulation and Artificial Intelligence in Health competitions, as well as developing an AI-driven Non-Player Character for a Snake game.
- **Hacettepe Research and Development Society**
  2024 - PRESENT
  Founding Members

ACTIVITIES

- **Inzva**
  2025
  Algorithm Competition Winter Camp
  - Selected as one of 50 participants from over 300 applicants, I attended the one-week inzva 2025 Winter Camp, focusing on advanced data structures, graph **algorithms**, and **dynamic programming**. In the final contest, where teams were randomly assigned, I secured **first** place.

LANGUAGES

- English (Fluent)
- Turkish (Native)
- German (Intermediate)
- Japanese(Basics)

PROJECTS

- **High-Frequency Trading Bot** 2025 - PRESENT
  - A high-frequency trading bot is being developed in **C++** to fetch real-time stock market data from multiple exchanges using **REST APIs**. The bot compares price discrepancies across markets and executes trades within **milliseconds** to capitalize on small differences. The system utilizes **advanced data processing** and decision-making algorithms, optimized for performance and low-latency execution, ensuring efficient, **high-speed trading** even when processing large amounts of data.
- **Language Learning Application** 2024 - PRESENT
  - Developed a **Flutter** application that integrates **Firebase Authentication** for secure login, dynamic flashcards for interactive learning, and an AI-powered quiz system using the **Gemini API**. Data is managed efficiently with **Firestore** to track user progress and provide a seamless experience for language learners.
- **Breast Cancer Classification** 2024
  - Created a **machine learning** solution to predict breast cancer malignancy using three models: **Logistic Regression** (~97% test accuracy), **Random Forest** (~95%), and **SVM** (~96%) on the Breast Cancer Wisconsin (Diagnostic) dataset. The models were evaluated using key metrics such as accuracy, precision, recall, and confusion matrix, with Random Forest achieving perfect training accuracy, suggesting strong learning but potential overfitting.
- **Brain Tumor Detection** 2024
  - Built a **deep learning** model using **TensorFlow** and **Keras** to classify brain tumors into four categories: glioma, meningioma, pituitary, and no tumor. The model achieves a 92.98% test accuracy and uses data augmentation techniques, including rotation and brightness adjustments. The model is evaluated using loss metrics, a confusion matrix, and a classification report.
- **Car Tracking and Counting** 2024
  - Built a real-time vehicle detection and tracking system using **YOLOv8** and **SORT**. The system counts vehicles crossing a predefined line while avoiding double-counting with tracking IDs. Efficiency is improved through **ROI masking**, and the system is adjustable for various video resolutions and hardware compatibility.
- **ClearVision Defense** 2024
  - Enhanced image processing techniques for defense applications using **C++**. The project implements filters for noise reduction (**Mean, Gaussian**), sharpening (**Unsharp Masking**), and LSB steganography for hiding and revealing messages within images. It optimizes operations with operator overloading and dynamic memory management, storing images in upper and lower triangular matrices, ensuring both efficiency and correctness.