Kuntay Yilmaz

kuntayrylmz@gmail.com | linkedin.com/in/kuntay-yilmaz | github.com/KuntayYilmaz

EDUCATION

Hacettepe University Turkey
Bachelor of Science in Artificial Intelligence Engineering Expected Graduation: June 2027
- **GPA: 3.52**

EXPERIENCE

Research Intern July 2025 – August 2025
METU NLP Research Group
- Researched state-of-the-art **polygon-based building-extraction models** (HiSup, SamPolyBuild, P2PFormer) for **aerial/satellite imagery** under the supervision of Asst. Prof. Dr. Cagri Toraman.
- Conducted a **small-scale evaluation** on aerial images to inform **model selection**.
- Integrated the top-performing model into a **Django-based data-annotation platform**, enabling **model predicted building polygons** that reduced manual polygon labeling time.

Undergraduate Teaching Assistant October 2024 – January 2025
Middle East Technical University
- Supported **36** students in **Python** programming by helping them debug code, improve programming logic, and grasp key concepts.

PROJECTS

ResNet-50 Implementation for CIFAR-10 [GitHub] September 2025
Technologies: PyTorch, Python
- Implemented a **ResNet-50** from scratch (bottleneck blocks, BatchNorm, residual connections).
- Built a reproducible training/evaluation pipeline with **augmentations**, **mixed-precision**, and **learning-rate** scheduling. Achieved **94.8%** test accuracy on **CIFAR-10**.

Fine-Tuned GPT-2 (124M) for Shakespearean Text [GitHub] November 2024
Technologies: PyTorch, Python, Hugging Face
- Fine-tuned a pretrained GPT-2 124M model using **PyTorch** and the **Hugging Face** Transformers library on the **Tiny Shakespeare** dataset to generate stylistically accurate Shakespearean text.
- Implemented data preprocessing and tokenization with **tiktoken**, handling large-scale text data while maintaining model compatibility.
- Optimized training performance by techniques such as **gradient accumulation**, **learning-rate scheduling**, and mixed-precision training (**BF16**) to enhance computational efficiency.

Neural Network from Scratch: Fashion MNIST Classification [GitHub] September 2024
Technologies: Python, NumPy, Matplotlib
- From-scratch **MLP** in NumPy (ReLU/Softmax, L2, dropout) for **Fashion-MNIST**. Achieved **90%** test accuracy.

2D Game Engine with a Space Shooter Prototype [GitHub] June 2024
Technologies: C++, SFML, Box2D, CMake
- Developed a custom 2D Game Engine using **C++** and **SFML** for rendering and integrated an open-source physics library to handle collisions.
- Demonstrated engine capabilities through a space shooter prototype, implementing core gameplay elements such as player controls and enemy spaceships.

ACHIEVEMENTS & ACTIVITIES

Algorithm Competition Winter & Summer Camp 2025 2025
- Ranked **1st** in a team contest among **23** students at a one-week-long algorithm camp organized by **Inzva** in 2025.
- Contest Link

TECHNICAL SKILLS

Languages & Tools: Python, C, C++, OpenGL, Git
Frameworks & Libraries: PyTorch, OpenCV, NumPy, pandas, Matplotlib
Topics of Interest: Real-Time Graphics, 3D Vision, Deep Learning