

Kubilay Bildirici

Email: kubilay_1453_25@hotmail.com

Mobile: +90 (552) 299 1510

EDUCATION

- Istanbul University, Faculty of Science, Physics Department 2019 - 2026
- Istanbul University, Faculty of Open and Distance Education, Computer Programming 2025 - Present

ABOUT ME

Hello! I'm Kubilay. I graduated from the Physics Department and worked on data analysis in the field of high-energy physics at university. During this time, I gained experience in creating particle collision simulations and analyzing complex physics data using tools such as C++, ROOT, Pythia, and CompHEP to extract meaningful insights. I was introduced to artificial intelligence during my first year at university, and my journey in AI began with YOLO-based computer vision projects. Over time, I expanded my work to machine learning model development and gained experience using frameworks such as Python, TensorFlow, Keras, and OpenCV. Through these experiences, I developed skills in building and training models and creating data-driven solutions. Currently, I am focusing on developing large language models (LLMs) and building AI-powered applications. I enjoy designing end-to-end systems and continuously exploring new technologies and methodologies to expand my knowledge and contribute to innovative AI solutions.

 LinkedIn: <https://www.linkedin.com/in/kubilay-bildirici-596b23354/>

 Check out my projects on YouTube: [kubilay bildirici - YouTube](#)

 Check out my GitHub: <https://github.com/KubilayBildirici>

 Check out my kaggle: <https://www.kaggle.com/kubilaybildirici>

CERTIFICATES & COURSES

- **AI Engineer Core Track: LLM Engineering, RAG, QLoRA, Agents**

Built generative AI applications using advanced models and frameworks, worked with LangChain, Hugging Face, and Gradio, and applied RAG, QLoRA fine-tuning, and AI agent systems.

- **Certificate:** <https://www.udemy.com/certificate/UC-a8fea44c-5377-4af6-bb20-ee0f61814dd1/>

- **Tensorflow for Deep Learning Bootcamp**

Deep neural networks (CNNs, RNNs/LSTMs) were created and trained for image and text data. Regression models and NLP were studied. Convolution operations and time series predictions were learned through applied studies. Training, loss, and accuracy metrics were monitored to improve model performance. My models were integrated into applications and made production-ready for real-world projects.

- **Certificate:** <https://www.udemy.com/certificate/UC-df20a19f-5fbb-40be-b3da-002cb481b0fe/>

- **Custom Models, Layers, and Loss Functions with TensorFlow**

Certification focused on advanced TensorFlow techniques including custom model architectures, custom layers, loss functions, and deep learning model development using Keras.

- **Certificate:** <https://coursera.org/share/cbc2f85ac23f3c21073f647724b504c8>

- **Custom and Distributed Training with TensorFlow**

Advanced TensorFlow workflows including custom training loops, GPU-based training, distributed deep learning strategies, and performance optimization for scalable neural network training using TensorFlow

- **Certificate:** <https://coursera.org/share/077e4d0e952d67017edc35d4da5a183e>

- **OpenCV Bootcamp**

Acquired hands-on skills in image processing with Python and OpenCV, including image filtering, edge detection, feature extraction, and real-time object detection.

- **Certificate:** <https://courses.opencv.org/certificates/875319c764bc47638753827b3b1efeca>

- **Object Tracking using Python and OpenCV**

Acquired hands-on experience with object tracking algorithms, real-time video processing, and motion analysis using Python and OpenCV libraries.

- **Certificate:** <https://www.udemy.com/certificate/UC-42889c10-4fe9-461d-b53c-dfcd8f208c4/>

- **YOLO Bootcamp**

Acquired practical skills in object detection and real-time tracking using YOLOv8, including model training, evaluation, and deployment for advanced computer vision applications.

- **Certificate:** <https://www.udemy.com/certificate/UC-64e8832c-7d0b-4a67-8c10-4d8b92155766/>

- **Python Data Analysis & Visualization**

Gained hands-on experience in data analysis and visualization using Python libraries such as Pandas, Matplotlib, and Seaborn; focused on data cleaning, analysis, and effective visual storytelling.

- **Certificate:** <https://www.udemy.com/certificate/UC-07f98a43-6b67-42ae-9e87-3414d8fb719a/>

- **The Git & Github Bootcamp**

Acquired practical experience in version control systems, repository management, branching, merging, and collaborative workflows using Git and GitHub.

- **Certificate:** <https://ude.my/UC-e0935c69-206b-46ee-aa09-a9c3479fbf37>

PROJECTS

- **DroneGPT Vision System**

Connected an AI model to a DJI Tello drone to analyze live camera feed and detect a target in real time. The system streams video directly to an LLM without a traditional computer vision pipeline or coded detection. It supports game controller-based drone control, real-time video streaming, frame processing via AI, and instant result display in a custom UI. Although current latency limits real-time performance, the system demonstrates potential for AI-powered observation and analysis drones.

- **Tools:** Python - PySide6 – OpenAI – OpenCV - Tello SDK
- **Link:** <https://github.com/KubilayBildirici/DJI-Tello-Drone-Programming-with-LLM-Entegration>
- **YouTube:** <https://www.youtube.com/watch?v=2qTR7SqFxVE>

- **nano GPT**

Implemented a GPT-2 style Transformer language model from scratch using TensorFlow/Keras, including self-attention, MLP blocks, token and positional embeddings, and a custom training loop. The project focuses on understanding Transformer internals and building a lightweight research-oriented mini-LLM framework for experimentation and education.

- **Tools:** Python - Tensorflow
- **Link:** <https://github.com/KubilayBildirici/nano-GPT-Tensorflow>

- **Pico DeepSeek**

Developed a lightweight 7M parameter language model using Transformer and Mixture-of-Experts (MoE) concepts in TensorFlow. The project demonstrates core LLM building blocks including Transformer layers, expert routing, data preprocessing, and model training in a simplified research-oriented setup.

- **Tools:** Python - Tensorflow
- **Link:** <https://github.com/KubilayBildirici/Pico-DeepSeek-7M>

- **Non deterministic Code Challenge App**

CodeEntropy is an interactive coding competition where the system's entropy increases in real time. Your goal is to write code quickly and accurately enough to stabilize it before the system crashes. Remember that the system generates unstable states.

- **Tools:** Python – HTML - CSS
- **Link:** <https://github.com/KubilayBildirici/entropy-is-always-increase-in-the-world>
- **Live:** <https://huggingface.co/spaces/ollama456/CodeEntropy>

- **Streamlit OpenCV App**

A browser-based computer vision toolkit built with Streamlit and OpenCV, designed to showcase real-time image processing in a clean, interactive interface. This project highlights my ability to turn Python-based CV algorithms into user-friendly web applications.

- **Tools:** Python - OpenCV
- **Link:** <https://github.com/KubilayBildirici/Streamlit-Opencv-App>
- **YouTube:** <https://www.youtube.com/watch?v=3AUrucrzdSE>

- **EuroSAT TinyVGG Classification**

A deep dive into multi-class satellite image classification using the EuroSAT dataset (13 spectral bands, 10 classes). This Jupyter-based workflow demonstrates how to build, train, and evaluate a custom CNN in TensorFlow for remote sensing applications.

- **Tools:** Python - Tensorflow
- **Link:** <https://github.com/KubilayBildirici/EuroSAT-tensorflow-CNN/tree/main>

- **loan status Prediction Streamlit**

An end-to-end Streamlit application that predicts both an applicant's credit score and their loan approval status using TensorFlow models. This project showcases a full ML pipeline—from raw data ingestion to interactive, real-time inference in the browser.

- **Tools:** Python – sklearn – Streamlit - Tensorflow
- **Link:** <https://github.com/KubilayBildirici/Loan-Status---Tensorflow>

PROGRAMMING SKILLS

- **Programming Languages:** Python
- **Machine Learning & Deep Learning:** TensorFlow, Keras, PyTorch, Scikit-learn, Model Training, Hyperparameter Tuning, Cross-Validation, Model Evaluation
- **Natural Language Processing (NLP / LLMs):** Transformers, Hugging Face, LLM Fine-Tuning, LoRA / QLoRA, Tokenization, Text Classification, Language Model Training
- **Large Language Models (LLMs):** RAG, Vector Embeddings, Semantic Search, Document Retrieval Pipelines, Knowledge-Augmented LLM Systems, LLM-powered applications, model interfaces
- **Deep Learning Architectures:** Transformers, Self-Attention Mechanism, Mixture of Experts (MoE), Feedforward Networks, Embedding Layers
- **Data Science & Numerical Computing:** NumPy, Pandas, Data Cleaning, Data Preprocessing, Feature Engineering
- **Model Development & Optimization:** Custom Training Loops, Optimizers (Adam, SGD), Learning Rate Scheduling, Gradient Descent, Loss Functions
- **Data Visualization:** Matplotlib, Plotly
- **APIs & Backend Development:** FastAPI, REST APIs
- **Tools & Development Environment:** Git, GitHub, Linux, Jupyter Notebook, VS Code, PyCharm
- **Hardware & Computing:** GPU Training, CUDA-based Deep Learning Workflows

LANGUAGES

- Turkish (Native)
- English (B1)