


# Yasin Küçüker

## Software Developer

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## PROFILE

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AI-focused Software Developer specializing in LLM-based applications, Retrieval-Augmented Generation (RAG), and intelligent agent systems. Experienced with LangChain, LangGraph, and Python to build scalable AI solutions with real-time data integration and contextual reasoning. Developed multiple projects involving vector databases, web-based retrieval, and hallucination detection pipelines. Strong foundation in machine learning and deep learning. Seeking opportunities in AI Engineering and LLM-driven application development.

## PROFESSIONAL EXPERIENCE


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### Full Stack Developer

*Lesso Software*

2021 – 2022

Konya/Turkey

- Led the design, development, and implementation of graphic, layout, and production communication materials.
- Responsible for user interface and frontend development.
- Worked with HTML, CSS, and JavaScript.
- Designed the database architecture and implemented backend functionality.
- Used PHP, Ajax, JSON, and MySQL for backend development.
- Projects: Developed websites as a clone of Ticaretiks.com 

### Low-Code Developer

*Inventara*

2022 – 2023

Rotterdam/NL

(Remote)


- Led the design, development, and implementation of UI/UX, layouts, and production communication materials.
- Responsible for user interface and frontend development, including dashboards, landing pages, SMS services, REST APIs, Google Maps services, Excel import/export, and internal pages.
- Responsible for database design and backend development.
- Projects: Smishing App, Delivery App

### Low-Code Developer

*Koç University*

2023 – 2024

Istanbul/Turkey


- Led the design, development, and implementation of graphic, layout, and production communication materials.
- Responsible for user interface and frontend development.
- Worked on dashboards, landing pages, REST APIs, Excel import/export, and various page structures.
- Responsible for database design and backend development.
- Projects: <https://www.ku.edu.tr/> 

### Game Tester

*Skyfect*

2024 – 2025

Istanbul/Turkey


- Conducted thorough testing of a horror game to identify and document bugs and issues.
- Recorded gameplay footage for detailed analysis of mechanics and user experience.
- Reported errors and inconsistencies during test phases.
- Collaborated with the development team to resolve identified issues.
- Reviewed solution code to ensure proper functionality.
- Provided feedback on game design and UI to improve overall player engagement.
- Project: Horror video game – PUKE 

## PROJECTS

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### Yaso – AI-Powered Personal Chatbot


Developed an AI-powered chatbot integrated into a personal website to provide interactive, context-aware information about professional background, technical skills, and projects. Improved recruiter and visitor engagement by enabling structured, conversational access to profile information.

**Technologies:** Voiceflow, OpenAI API, Airtable, Python (Flask), AWS EC2, HTML, CSS, JavaScript  
<https://yasinkucuker.com/ai/yaso/index.html> 

### Metro Simulation

*Route Optimization with BFS & A\**


Built a Python-based metro network simulation system that models stations, lines, and connections to compute optimal routes. Implemented BFS (Breadth-First Search) to find routes with the least transfers and A\* algorithm to determine the fastest paths based on time. Visualized metro lines and the full network using NetworkX and Matplotlib, enabling clear graphical representation of complex route structures.

**Technologies:** Python, NetworkX, Matplotlib, BFS, A\* Algorithm  
<https://github.com/ysnkucuker/Metro-Simulation> 

### Cats vs Dogs Classification

*CNN Image Classification Model*


Developed a deep learning model to classify cat and dog images using Convolutional Neural Networks (CNN). Applied data preprocessing techniques such as resizing and normalization, along with data augmentation methods including rotation, zoom, and flipping to improve generalization. Designed a CNN architecture with Conv2D, MaxPooling, and Dropout layers, and evaluated model performance using accuracy metrics, confusion matrix, and classification report.

**Technologies:** Python, TensorFlow, Keras, CNN, Data Augmentation  
<https://github.com/ysnkucuker/cats-and-dogs-cnn-classification> 

### Healthcare Billing Prediction

*Machine Learning Regression Model*


Built a machine learning model to predict hospital billing amounts based on patient demographic and medical data. Performed data analysis and feature evaluation, and compared multiple regression models including Linear Regression and Decision Tree. Optimized the final model using GridSearchCV and evaluated performance with MAE, RMSE, and R<sup>2</sup> metrics to ensure accuracy and reliability.

**Technologies:** Python, Scikit-learn, Pandas, NumPy, Machine Learning, Regression  
<https://github.com/ysnkucuker/HealthCare-ML> 

### Simple-AI-Agent

*Conversational Agent with Memory & Search*


An intelligent chatbot powered by LangChain's ReAct framework. It features conversational memory via an in-memory SQLite database and automatically performs internet searches when real-time information is required.

**Technologies:** Python, LangChain, OpenAI GPT-4o-mini, Tavily Search, SQLite  
<https://github.com/ysnkucuker/Simple-AI-Agent> 

### WebRAG Agent

*Autonomous Web-Based Retrieval-Augmented Generation*


An intelligent agent that scrapes specific content from live websites, processes data into vector embeddings, and provides context-aware answers using a RAG pipeline. It uses streaming responses for a real-time user experience.

**Technologies:** Python, LangChain, BeautifulSoup, ChromaDB, HuggingFace Embeddings, OpenAI GPT-4o-mini  
<https://github.com/ysnkucuker/Web-RAG-Agent> 

### Adaptive-RAG

*Self-Correcting Question-Answering System*

A sophisticated QA system that integrates document retrieval, web search, and language generation. It features a self-correction pipeline using LangGraph to assess if generated answers are grounded in facts (Hallucination Grading) and effectively address user queries.


**Technologies:** Python, LangChain, LangGraph, OpenAI GPT-4, ChromaDB, Tavily Search  
<https://github.com/ysnkucuker/Adaptive-RAG> 

### Yaso Notes

*Offline Document-Converter-Desktop Application*

A privacy-focused desktop application that allows users to take notes and export them in multiple formats including TXT, DOCX, PDF, and WAV (audio).

**Technologies:** Python, Tkinter, PyPDF2, Python-docx, PyInstaller


<https://apps.microsoft.com/detail/9NLBW2B4G8WL?hl=neutral&gl=TR&ocid=dpdshare> 

### **CryptoText**

*Local Text Encryption & Decryption Tool*

A secure utility designed for local message protection. It allows users to encrypt sensitive text into unreadable formats and decrypt it back using specific keys, ensuring data privacy without relying on cloud-based services.

**Technologies:** Python, Cryptography Library, Tkinter, File Handling


<https://apps.microsoft.com/detail/9P1CZLo6HNoB?hl=neutral&gl=TR&ocid=dpdshare> 

### **Python-with-Projects**

*Comprehensive Python Development Portfolio*

A curated collection of over 34 standalone Python projects designed to demonstrate proficiency across various domains. The portfolio includes applications for **Computer Vision** (Face Detection with OpenCV), **Desktop GUIs** (PyQt5, Tkinter), **Data Automation** (YouTube Downloader, PDF-to-Docx), and **Financial Simulations** (Crypto Trading Bot). Each project focuses on clean code, multithreading, and efficient file handling.


**Technologies:** Python, OpenCV, PyQt5, Tkinter, SQLite, Requests (REST APIs), BeautifulSoup, Pillow

<https://github.com/ysnkucuker/python-with-projects> 

### **Lingoworm – Mobile Language Learning Application**

Developed a mobile language learning application with comprehensive modules for vocabulary acquisition and practice. The app includes flashcards with pronunciation support, an integrated quiz system, grammar lessons, reading exercises (news, articles, and stories), and listening activities (dialogues, podcasts, and stories). Implemented speaking practice using Gemini, enabling interactive conversations and pronunciation evaluation. Added writing exercises with both word-level and AI-powered grammar validation. Extended learning with idioms and phrasal verbs modules. Integrated translation features supporting both text and image-based translation, where text within photos is extracted and translated.


**Technologies:** Android, Java, PHP (backend), MySQL, Gemini API, Text & Image Translation

<https://play.google.com/store/apps/details?id=com.yasinkucuker.lingoworm> 

### **Lingoworm – Web-Based Language Learning Platform**

Designed and implemented a web-based language learning platform using PHP and MySQL for the backend. The system delivers interactive modules, including flashcards, grammar topics, reading exercises (news articles and stories), listening activities (podcasts, dialogues, and stories) with synchronized reading tracking, speaking practice with pronunciation evaluation for words and sentences, writing exercises with grammar validation, and a translation tool.


**Technologies:** PHP, MySQL, HTML, CSS, JavaScript, SSL, Responsive Web Design

<https://www.lingoworm.net> 

### **Kupon Takip - Betting Predictions & Live Scores**

Developed a comprehensive sports platform providing daily betting predictions and real-time match tracking. The application includes a dynamic live score system with auto-refresh capabilities. Integrated diverse content modules such as daily coupons, high-odds value bets, and sports news. Implemented monetization through Google AdMob integration, including interstitial, native, and banner ads.


**Technologies:** Android, Java, Retrofit, Glide, PHP (backend), MySQL, Google AdMob API, RESTful APIs

<https://play.google.com/store/apps/details?id=com.yasinkucuker.kupontakip.app> 

### **Kupon Takip Web - Sports Analysis & Betting Platform**

Developed a professional web-based sports analysis platform using PHP and MySQL to deliver real-time betting insights and match data. The system features a comprehensive dashboard for daily predictions, high-odds analysis, and managed sports news content. Implemented a robust backend architecture for synchronized data management between the web and mobile platforms. The frontend is designed with a responsive UI/UX approach, ensuring seamless performance across all devices, integrated with real-time live score tracking and category-based news filtering.

**Technologies:** PHP, MySQL, HTML5, CSS3, JavaScript, Bootstrap, RESTful API Development, Responsive Web Design

<https://www.kupontakip.net> 

## **EDUCATION**

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### **B.Sc. in Computer Engineering - Konya Technical University**

2015 – 2020

#### **Relevant Coursework**

Konya

Algorithm and Programming I & II

Operating Systems (OS)

Object-Oriented Programming (OOP)

Data Structures

Database Systems

Visual Programming Languages

Web Programming

Algorithms (Advanced)

Advanced Programming Languages

Software Engineering

## SKILLS

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### Technical Skills

- **Programming Languages:** Java, Python, JavaScript, HTML, CSS
- **AI & LLM Frameworks:** LangChain, LangGraph, OpenAI API, HuggingFace
- **AI & Machine Learning:** Machine Learning, Deep Learning, Supervised Learning, Regression, Classification, Model Evaluation
- **Databases:** ChromaDB (Vector DB), SQLite, MySQL, PostgreSQL
- **Deep Learning & Frameworks:** TensorFlow, Keras, CNN
- **Data Science & Analysis:** Pandas, NumPy, Matplotlib
- **AI Tools & Integration:** OpenAI API, Voiceflow, Airtable,
- **Web & Deployment:** Flask, REST API, AWS EC2, HTML, CSS, JavaScript, Pydantic, BeautifulSoup (Web Scraping)
- **Software Engineering:** Object-Oriented Programming (OOP), Data Structures, Algorithms, Software Engineering Principles
- **Tools & Platforms:** Git/GitHub, Swagger/OpenAPI, Kaggle, LangSmith (Tracing & Evaluation), Postman,
- **Containerization & Orchestration:** Docker, Kubernetes
- **Operating Systems & Hosting:** Ubuntu Server, Linux CLI, SSL Configuration

### Collaboration & Project Management Tools

- **Jira** → Agile project management, issue tracking, sprint planning
- **Miro** → Online whiteboarding, brainstorming, workflow visualization
- **ClickUp** → Task management, team collaboration, productivity tracking


## COURSES

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### Introduction to AI & Python

*Global AI Hub & Akbank*

Completed a hands-on bootcamp focused on Python fundamentals and core AI concepts. Developed a metro simulation project applying graph algorithms such as BFS and A\* to solve real-world route optimization problems.


<https://yasinkucuker.com/assets/certificates/Akbank-Python-ve-Yapay-Zekaya-Giris.pdf.pdf> 

### Machine Learning Bootcamp

*Global AI Hub & Akbank*

Completed an applied machine learning training program by developing a healthcare billing prediction model using supervised learning techniques. Compared multiple models and optimized a Decision Tree Regressor using GridSearchCV, achieving an R<sup>2</sup> score of 0.87.

Project: Healthcare Billing Prediction

[https://yasinkucuker.com/assets/certificates/Akbank-Makine-Ogrenmesine-Giris-Bootcamp\\_yasinkucuker19031.pdf.pdf](https://yasinkucuker.com/assets/certificates/Akbank-Makine-Ogrenmesine-Giris-Bootcamp_yasinkucuker19031.pdf.pdf) 

### Deep Learning Bootcamp

*Global AI Hub*

Completed a deep learning training program focused on neural networks and computer vision. Developed an image classification model using Convolutional Neural Networks (CNN) to classify cats and dogs. Applied data preprocessing and augmentation techniques, and evaluated model performance using accuracy metrics, confusion matrix, and classification report.

Project: Cats and Dogs CNN Classification


[https://www.yasinkucuker.com/assets/certificates/Akbank-Derin-Ogrenmeye-Giris-Bootcamp\\_Akbank-Derin-Ogrenmeye-Giris-Bootcamp\\_yasinkucuker19031.pdf.pdf](https://www.yasinkucuker.com/assets/certificates/Akbank-Derin-Ogrenmeye-Giris-Bootcamp_Akbank-Derin-Ogrenmeye-Giris-Bootcamp_yasinkucuker19031.pdf.pdf)

## Generative AI & LLM Orchestration

*LangChain, RAG, and AI Agents*

A comprehensive advanced course focusing on the next generation of AI applications.


- **LLM Orchestration & State Management:** Mastered building complex AI workflows using LangChain and LangGraph.
- **Advanced RAG Architectures:** Implemented Adaptive-RAG systems with integrated Hallucination Grading and Self-Correction mechanisms.
- **Agentic Workflows:** Developed autonomous agents using the ReAct framework, incorporating Conversational Memory and Tool Integration (e.g., Tavily Search).
- **Production & Observability:** Specialized in LLM tracing, debugging, and performance evaluation using LangSmith.
- **Technical Deep Dive:** Advanced usage of Pydantic for data validation, Vector Databases (ChromaDB) for retrieval, and Streaming Responses for optimized user experience.

<https://yasinkucuker.com/assets/certificates/LLM%20Orchestration.jpg> 

## English Course

*AmericanLIFE*

Completed a comprehensive English language program covering intermediate to advanced levels. Training focused on advanced grammar structures, functional English, and professional communication skills, including clauses, conditionals, modal verbs, passive voice, reported speech, gerunds & infinitives, phrasal verbs, idioms, and academic writing mechanics. Program emphasized both spoken and written fluency, with practical usage in professional and real-life contexts.

<https://yasinkucuker.com/assets/certificates/c2.pdf> 

02/2022 – 06/2024

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