

# Hamza BOUKTITIYA

+212-688679653 · bouktitiya.hamza.post@gmail.com · github.com/gothamza ·  
linkedin.com/hamza-bouktitiya · Casablanca, Maroc



## ARTIFICIAL INTELLIGENCE ENGINEER

Passionate about artificial intelligence, I specialize in creating AI-based solutions. With some knowledge of development, I'm ready to put my skills to work on innovative projects. I'm currently looking for opportunities to contribute to challenging, forward-thinking work.

## EDUCATION

### University IBN TOFAIL

2022-2024

KENITRA, MOROCCO

- Master in Artificial Intelligence and Virtual Reality

### University IBN TOFAIL

2018 - 2022

KENITRA, MOROCCO

- Degree in computer science and mathematics

### High school SIDI AISSA

2017 - 2018

SOUK EL ARBAA DU GHARBE

- Secondary school diploma in mathematical sciences with honors.

## PROFESSIONAL EXPERIENCE

### Junior AI Engineer , OBYSTECH SOLUTIONS, Rabat

April 7, 2025 – October 7, 2025

built a full-stack AI platform with a Next.js front-end and FastAPI/LangChain back-end, featuring chat management and a document/folder system with team workspaces and public/private access controls.

**DEMO:** [gothamza/multidept-ai-assistant](#)

Front-end ( **Next.js/React · Tailwind** )

- Multi-chat interface with collection picker, per-chat RAG toggle, role/context controls.
- Cursor-based pagination for chat history and documents; filters/sort and optimistic updates for large lists.
- Team workspaces with public/private sharing, guarded routes, and granular folder/document permissions; Tailwind + component library.

Back-end ( **FastAPI · LangChain/LangGraph · MCP · Ollama** )

- Secure LLM APIs (chat, RAG, image gen) with typed schemas, validation, JWT/OAuth2, and role-based access for users/collections.
- RAG pipeline: ingestion (PDF/docs/txt/md), chunking, HF embeddings, hybrid/vector search with MMR re-rank; per-chat memory and collection-scoped context.
- LangGraph workflows with Postgres-backed memory; MCP integration (math/tools service) to safely invoke external tools inside agent graphs.
- Additional services: models listing, references agent, and Hugging Face image generation endpoint (Stable Diffusion).

Deployments/DevOps

- Docker Compose multi-service stack: FastAPI API, Next.js app, MCP service, and two databases — PostgreSQL + ChromaDB (vector store).
- Environment parity (dev/prod), healthchecks, volumes for persistence; secrets via env files.
- VPS deployment with reverse proxy/SSL, zero-downtime restarts, centralized logs/metrics.

### AI Intern, Verve Technologie, Casablanca

February 19, 2024 - August 19, 2024

- Building a forecasting system using LSTM to predict energy consumption for the following months.
- Use of LangChain and FastAPI for efficient interaction with language models and creation of endpoints.
- Participation in the design of the database used in the project .
- Development of a RAG system to generate text from Wikipedia, web scraping (user-supplied URLs) and PDF.
- Added JWT authentication, user management, and creation of endpoints for generating summaries, titles, and text based on user prompts or slide content in English and French. Also implemented a text translation endpoint . (using LLAMA 3.1 via Groq API)
- Implementation of image generation endpoints using Stable Diffusion 1.5, with different endpoints created according to user needs based on slide content.

### Web Development Intern, bn Tofail CS Department, Kenitra, Morocco

March 1, 2022 – June 20, 2022

[gothamza/gym\\_website\\_s6](#)

Creation of a web application to manage a gym, for both customers and administrators. Front-end and back-end development using PHP, CSS, Bootstrap and JavaScript.

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## ACADEMIC PROJECT

### Health Chatbot,ThinkAI Hackathon

[gothamza/Pixel-VisionV2](#)

August , 2024

Development of a chatbot, using Python, Ollama and Streamlit for user interaction. The chatbot allows users to provide input in the form of text or images, with buffer functionality for continuous and personalised interactions.

### Educational game,DyslexAI hackathon

[HAMZAuit/dexlyxia-hackathon](#)

February , 2024

Creation of a game during the DyslexAI hackathon to help children improve their pronunciation and word learning.(python/django

### 3D object generation

[gothamza/2Dto3D](#)

February , 2024

Creating a 3D object from a 2D image using multiple view generation and implicit representation neural networks (NeRF)

### Gym-Explor

[gothamza/gym-explore](#)

December, 2023

Created a user interface using Streamlit and PyTorch to allow users to select different games and algorithms, such as Deep Q-Learning and OOP. Users can also adjust various hyperparameters for each model. After training, results can be saved in CSV format for analysis, along with graphs showing learning rate and errors. gothamza/gym-explore

### Cutom Question Answering in darija

[gothamza/darija\\_english1](#)

December, 2023

Developed an NLP system enabling Question Answering (QA) in Moroccan Darija and English by training three models: a Transformers-based QA model for English, a Seq2Seq model for translating Moroccan Darija to English, and an LSTM-based model for translating English to Moroccan Darija. Due to the lack of clean QA datasets in Moroccan Darija, the system utilized translation models to adapt English datasets, creating a seamless pipeline for cross-language QA and improving accessibility for Moroccan Darija speakers.

### icense plate recognition

[gothamza/UK\\_PLATES\\_DETECTION-](#)

June, 2023

Developed a customised image recognition model for detecting number plate characters. Created a dataset by extracting characters from number plates, generating 1,700 features per character using HOG . Trained KNN and SVM models, achieving 98.9% accuracy on test data. Compared results with EasyOCR to validate performance.

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## PROGRAMMING SKILLS

- AI and machine learning development (PyTorch, PyTorch3D, TensorFlow, LangChain, LangGraph, CrewAI).
- Back-end development (Django, FastAPI).
- Front-end and web design (CSS, HTML, Bootstrap,THREE.JS, Node.js, LangChain.js).
- Data analysis and visualization (Python, Power BI).
- Database management (SQL, MySQL,PL/SQL).

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## EXTRA-UNIVERSITY ACTIVITIES

- ThinkAI Hackathon, held at the 1337 Coding School at the UM6P
- DyslexAI hackathon in Ifrane at al akhawayn university TOP3
- Co-founder of Club Pragnomos
- Public presentation at the Agora event organized by club Prognomos
- Basketball / karatie kai

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## LANGUES

- English (C1)
- French (B2)
- Arabic (Maternelle)