Haroun Khmiri

Data Scientist & AI Engineer

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Professional Profile

Passionate AI and software engineer with hands-on experience in machine learning, deep learning, NLP, and system optimization. Skilled in designing intelligent models and developing scalable backend systems. Experienced in game development and real-time systems with Unity and OpenGL. Adept at bridging theory and practice through academic research, personal projects, and professional applications.

Professional Experience

07/2025 – 09/2025
Sousse, Sahloul

ARSII
Data Scientist Intern
-Generating synthetic data of blood culture signals.
-Preprocessing and feature engineering over 43 feature.
-Scaling and training and evaluating pathogens detection models.
-Scaling and training and evaluating antibiotic resistance models.

2023 – 2024
sahline, Monastir

Shetech Studio
AR/VR Developer
- Engineered immersive AR/VR applications: implemented strategic Al behaviors, FMOD-driven adaptive audio, and procedural world generation for rapid iteration.

2023
Ariana, Tunis

Herodot
Gameplay Programmer Intern
- Developed core gameplay mechanics and optimized client-server networking with Netcode, en- hancing latency and stability for multiplayer prototypes.

Education

2023 – Present

Engineering Degree Al & Data Science
Polytechnique Sousse
- Specializing in data engineering, statistical learning, and scalable software architecture.

2020 – 2023

Bachelor's in Computer Science
ISIG-K
- Focused on algorithms, software design patterns, and system optimization.

Selected Projects

Academic Project: Financial Report Analysis
Python, NLP, Spacy, NLTK
- I designed Financial Report Analysis natural language processing system designed to automate the extraction, analysis, and insight generation from financial reports. The platform processes PDF documents

Personal Project: C++ ML Framework
C++, STL, K-Means, K-NN, Neural Networks
- Authored core ML algorithms from scratch, outperforming standard Python libraries by 20%.

Personal Project: Stock values Prediction Model
DL, LTSM, RNN, Python
- Developed a stock values prediction model utilizing techniques such as LTSM and recurrent neural network in python.

Intern Project: AI-Based Early Prediction of Pathogen Identification and Antibiotic Resistance from Blood Culture Signals
ScikitLearn, Python, ML, DL
- -Designed models that Identifies pathogens through blood culture cells and predict their antibiotic resistances
- Development of interactive interfaces to test medical images.

Academic Project: Salary Prediction & Exoplanet Classification
Python, Scikit-learn, Flask, Streamlit
- developed salary prediction and exoplanet classification models.

Personal Project: Heap-Optimized Pathfinding
Unity, C#, A* Algorithm, Octree Partitioning
- Engineered high-performance pathfinding for 10K+ nodes using heap sorting and octree spatial partitioning, halving route computation time.

Personal Project: Procedural World Generation
Unity, C#, Perlin Noise
- Developed a flexible terrain engine for forests, deserts, and mountains, cutting manual design time by 70% via procedural pipelines.

Personal Project: Custom C++ Game Engine
C++, OpenGL, Assimp, STB_Image
- Crafted a modular 3D engine with octree collision and batch-rendered lighting.

Academic Project: Library Management System
C#, .NET. SQLite, LiveCharts
- Automated library workflows and dashboards, reducing administrative tasks.

Academic Project: Recommendation Engine Backend
RestAPI, gRPC, GraphQL, Kafka, JWT
- Designed microservices for authentication, cataloging, and real-time recommendations.

Personal Project: Turn-Based Tactical Card Game Powered by GOAP AI system
Unity, C#, Al Behavior Trees, GOAP
- Designed a tactical card battler with Al-driven opponents and dynamic mechanics.

Professional Work: VR Health & Fitness Platform
Unity, C#, IoT Sensors, Firebase
- Built a VR system tracking biometrics and syncing to a real-time analytics dashboard, reducing

Academic Project: Narrative game with reinforcement learning
Python, Reinforcement Learning, Unity, Gamification
- I developed a game where AI suspects learn to lie, evade, and deceive while the human player tries to catch them, powered with reinforcement learning and gemini API.

Skills

C#
75%

C++
70%

Unity
75%

Pytorch
65%

DL & ML
75%

Python
70%

MERN
60%

NLP
65%