



# Haroun Khmiri

Data Scientist & AI Engineer

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📍 Zaghuan, Tunisia

## 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 AI behaviors.
- FMOD-driven adaptive audio, and procedural world generation for rapid iteration.
- Data Collection of player heart rate through oculus rift.

2023  
Ariana, Tunis

### Herodot

Gameplay Programmer Intern

- Developed core gameplay mechanics and optimized client-server networking with Netcode, enhancing latency and stability for multiplayer prototypes.

## Education

2023 – Present

### Engineering Degree AI & 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, LangChain, Transformer

- 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, Implementing model such as K-means, decision tree etc...

### **Personal Project: Stock values Prediction Model**

DL, LSTM, RNN, Python

- Developed a stock values prediction model utilizing techniques such as LSTM 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 data.

### **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#, AI Behavior Trees, GOAP

- Designed a tactical card battler with AI-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				
<b>C#</b> 75%	● ● ● ● ●	<b>C++</b> 70%	● ● ● ● ●	
<b>Unity</b> 75%	● ● ● ● ●	<b>Pytorch</b> 65%	● ● ● ● ●	
<b>DL &amp; ML</b> 75%	● ● ● ● ●	<b>Python</b> 70%	● ● ● ● ●	
<b>MERN</b> 60%	● ● ● ● ●	<b>NLP</b> 65%	● ● ● ● ●	