

Hana Kouiriti

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PROFESSIONAL SUMMARY

Results-driven Computer Scientist with expertise in **Artificial Intelligence, Machine Learning, and Embedded Systems**. Proven experience in developing AI models, autonomous systems, and competitive programming. Strong problem-solving skills with a passion for innovation, open-source contributions, and impactful research. Seeking opportunities to leverage AI and software engineering skills in challenging projects.

EDUCATION

Northwestern Polytechnical University

B.Sc. in Computer Science

Xi'an, China

Expected Graduation, July 2027

Planned: M.Sc. in Artificial Intelligence (Future Studies)

- **Concentrations:** Artificial Intelligence & Machine Learning
- **GPA:** 3.651/4.00
- **Languages:** Native in Arabic, Fluent in English and French, learning Chinese
- **Related Coursework:** Data Structures & Algorithms, Programming Experiment, Chinese Language, Digital Logic Design, Algorithm design & analysis, Discrete Mathematics, Physics, Probability Theory and Mathematical Statistics

EXPERIENCE

AI Model Development – Heart Disease Prediction AI

Personal Project | Remote | 2024

- Developed a machine learning model to predict heart disease based on patient data.
- Utilized Python, scikit-learn, and neural networks for classification and optimization.
- Achieved high accuracy through data preprocessing, feature engineering, and model fine-tuning.

AI Assistant for University Students

Personal Project | Remote | 2024

- Trained a Llama3.2-based AI model to assist students with academic inquiries.
- Integrated the model into a chatbot interface for ease of use.
- Deployed the assistant on Hugging Face, and made a website to host it for real-world accessibility.

Autonomous Airship Prototype

Team Research | China | 2024-Present

- Designed a drone-based prototype using Matek F405 for autonomous flight.
- Programmed flight stabilization and navigation algorithms in C++.
- Bridged software and hardware integration using FPGA for additional control.

Personal Portfolio Website

Personal Projects | 2024

- Designed and developed a responsive personal portfolio to showcase projects, skills, and achievements.
- Implemented an interactive project gallery and smooth animations for a modern UI/UX.
- Optimized performance and accessibility for a seamless browsing experience across devices.

FPGA-Based Digital Logic Projects

Coursework & Independent Projects | China | 2024

- Designed an 8-bit ALU, shift registers, and a state machine for sequence detection using Verilog.
- Simulated and verified designs using Icarus Verilog and ModelSim.
- Implemented a 16-bit RCA Adder and various logic circuits on an FPGA (Vivado).

Competitive Programming & Open-Source Contributions

LeetCode, GitHub | 2023-Present

- Solved 500+ competitive programming problems across multiple platforms.
- Contributed to open-source projects, including a VS Code extension (BlackT Code Style).

Game Development – Breakout & ShellStorm

Personal Projects | 2023

- Developed Breakout, a classic brick-breaking game with a score system, timer, and dynamic difficulty levels.
- Created ShellStorm, a wartime shooter where players command heavy artillery against waves of enemy aircraft.
- Implemented physics-based mechanics and optimized game performance using C++, C and OpenGL.

Interactive Visualization Projects

Personal Projects | 2023-Present

- Designed a heart-shaped animation featuring the Chinese flag, incorporating dynamic glowing stars.
- Created a whale simulation in Python, where a whale smoothly follows the cursor using Pygame.
- Built a realistic light bulb effect using HTML, CSS, and JavaScript, simulating interactive illumination changes.

ACTIVITIES AND LEADERSHIP

High School Programming Challenges Club

Taza, Morocco

Leader

Aug 2021 – July2023

Led a club focused on competitive programming challenges, organizing events and mentoring peers in coding, problem-solving, and competitive programming practices.

College Software Team

Xi'an, China

Member

Aug 2024 – Current

Part of the software team in my college club, collaborating on various coding projects and contributing to the development of innovative software solutions.

BlackPearl

Remote

Co-founder & Leader

Oct 2023 – Current

Co-founded BlackPearl, where I serve as one of the leaders, and spearheaded several AI-related projects, including the development of a University Assistant AI to support academic activities.

SKILLS

Programming: Python, C, C++, JavaScript, HTML/CSS, Verilog, SQL, MATLAB

AI & Machine Learning: Neural Networks, Deep Learning, Scikit-learn, TensorFlow, PyTorch, OpenCV

Hardware & Embedded Systems: FPGA (Vivado, Verilog), Matek F405, Digital Logic Design, Embedded C

Game Development: OpenGL, GLUT, Pygame

Web Development: Flask, Tailwind CSS, Bootstrap, JavaScript (DOM Manipulation), HTML/CSS

Tools & Platforms: Git, GitHub, Jupyter Notebooks, VS Code, Icarus Verilog, ModelSim, Android Studio, PyCharm

Methodologies: Agile, Object-Oriented Programming (OOP), Software Development Life Cycle (SDLC)