

Mouhamad Alim Al-Amine

Medina, Saudi Arabia

Email: alamine@mouhamadalim.com

Phone: +966 544 706 908

Web: mouhamadalim.com | GitHub: github.com/alaminerca

Profile

Final-year Computer Science student at Islamic University of Madinah. Working on reinforcement learning, autonomous systems, and low-resource NLP. Built and deployed research prototypes ranging from DRL-based drone navigation to hardware neural networks on FPGA. Three papers currently under review.

Education

Bachelor of Science in Computer Science

Islamic University of Madinah, Saudi Arabia

June 2026

Relevant Coursework:

Machine Learning, Operating Systems, Computer Networks, Software Engineering, Parallel & Distributed Computing, Computer Architecture, Database Systems, Research Methodology.

Academic Projects

Autonomous Drone Navigation & Obstacle Avoidance (DRL) — Graduation Project

- PPO-based quadrotor navigation with obstacle avoidance in Webots. Hierarchical PID+DRL architecture with curriculum learning.
- Systematic reward engineering across seven iterations. Ranked top graduation project. Certificate of Outstanding Achievement from the Faculty Dean.
- Paper under review (MDPI Drones). Tools: Python, Stable-Baselines3, Gymnasium, Webots, Crazyflie.

SangoNMT — Parameter-Efficient Domain Adaptation of NLLB-200 for Sango

- First dedicated Sango-French NLP system. Built a 21,125-pair parallel corpus and applied LoRA fine-tuning to NLLB-200.
- Model and dataset publicly released on HuggingFace. Paper under review. Tools: PyTorch, HuggingFace Transformers, PEFT.

FPGA Neural Network Robot

- Autonomous obstacle-avoidance robot with a 3-8-3 neural network deployed entirely in FPGA fabric (DE1-SoC, Cyclone V). Inference in ~1 microsecond using Q6.10 fixed-point arithmetic.
- Zero collisions during live demonstration. Fully battery-powered and untethered. Tools: Verilog, Quartus Prime, Arduino, PyTorch.

Predictive Modeling of Real Estate Prices in Saudi Arabia

- Comparative study of XGBoost, Random Forest, and Gradient Boosting for property valuation across Saudi cities, with Arabic-language NLP preprocessing.
- Paper under review (JOIN). Tools: Python, scikit-learn, XGBoost, Pandas.

Computational Pipeline — KAUST Academy (Summer 2025)

- Developed an automated workflow integrating AlphaFold2 and AutoDock Vina.
- Focused on scripting, execution management, and documentation.

Parallel Computing Project

- Configured and documented a small MPI-based cluster environment.
- Explored basic distributed execution and performance concepts.

Technical Skills

Languages: Python, Verilog, Java, MATLAB, SQL
ML/AI: PyTorch, Stable-Baselines3, HuggingFace Transformers, PEFT/LoRA, Gymnasium

Hardware/Embedded: Quartus Prime, ModelSim, Arduino, FPGA (Cyclone V)
Tools: Git, Linux, Webots, MPI, Docker

Certifications

- Deep Learning Specialization — DeepLearning.AI
- Mathematics for Machine Learning — DeepLearning.AI
- Python 3 Programming Specialization — University of Michigan
- Google Data Analytics Professional Certificate
- English for STEM MOOC — U.S. Department of State

Community Engagement

Volunteer involvement with youth and development organizations in the Central African Republic, supporting community initiatives and educational access.

Research Interests

- Reinforcement Learning
- Autonomous Systems
- Hardware-Accelerated AI
- Embedded AI
- Low-Resource NLP