DIYARI M. SALIH

- Diyari.m.salih@gmail.com | 20256924@etud.univ-evry.fr | +33 759218310
- Github.com/Diyari-Fariq-M-salih | linkedin.com/in/Diyari-Fariq | EngineeringPortfolio

Évry-Courcouronnes, France, 91000

Master's student in Smart Aerospace & Autonomous Systems with a strong foundation in machine learning, PyTorch, computer vision, MATLAB-based modeling, and path-planning algorithms. Knowledgeable in designing A*, RRT, PF, multi-agent navigation, CNN/LSTM pipelines, perception systems, and robotics simulation in Python / ROS / MATLAB.

EDUCATION

Université Paris-Saclay / Poznań University of Technology — France | Évry-Essonne
Master 2 Smart Aerospace and Autonomous Systems — Mar *2025 - Present*
- **Coursework:** Machine Learning & AI, Autonomous Systems, Machine Vision, Embedded Systems.
- **Association:** Association de Robotique d'Évry (EVOROBS).

Salahaddin University — Iraq | Erbil
B.Sc. in Mechanics & Mechatronics || Second in Department — *Sep 2019 - Jul 2023*
- **IoT-Enabled GSM Automation System — Excellent.**
- **LPG Fire-Risk Reduction Study — Excellent.**
- **Team Leader, IREX Global Solutions Challenge.**

RESEARCH & ENGINEERING PROJECTS

Université Paris-Saclay / Poznań University of Technology — France | Évry-Essonne
Projects Collaborator & Co-author — *Mar 2025 - Dec 2025*

Path Planning & Autonomous Navigation (A*, RRT, PF)
- Implemented A* and potential fields for obstacle-aware local trajectory generation.
- Benchmarked A*, RRT, curvature constraints, and scheduling logic for dynamic routing.
- Built multi-agent navigation simulations (UGV/UAV) in Python.

MATLAB Regression Modeling and Reinforcement Learning (Neural Networks + RL)
- Implemented nonlinear regression models using MATLAB Neural Network Toolbox.
- Evaluated model performance under varying noise levels and outliers.
- Developed a reinforcement learning agent to navigate a 2D maze using reward-based optimization.
- Demonstrated the interaction between supervised learning (NN) and RL-based decision-making.

MATLAB Modeling & Signal Processing (Filters, Stereo Vision)
- Designed low-pass filters and implemented evaluation of frequency response and convolution outputs.
- Built MATLAB stereo block-matching algorithms for disparity and depth estimation.

Deep Learning for Aerial & Temporal Data (PyTorch)
- Built PyTorch preprocessing pipelines, dataset loaders, and a full training loop.
- Designed CNN + LSTM hybrid for satellite temporal-sequence classification.
- Tuned training hyperparameters and evaluated model robustness.

Vision for Robotics (Detection, Segmentation & Lane Following)
- Developed real-time 30 FPS detection pipelines for object detection and lane following.
- Integrated classical CV (thresholding, Canny, contouring) with CNN inference.
- Applied compact CNNs for emotion recognition using face datasets.

INDUSTRY & TECHNICAL EXPERIENCE

Iraq | Hybrid

Junior PLC Technician — Ala Company, — *Jan 2025 - Jun 2025*
- Performed PLC diagnostics and sensor scaling; reduced downtime by 15%.

Project Collaborator — Rawanga Foundation (Concurrent) — *May 2022 - Sept 2022*
- Completed a 117-hour coding bootcamp focused on Git, version control, and collaborative workflows.

Site Engineer/Pipeline Designer — Unigaz Co. — *Jan 2021 - Aug 2022*
- Designed NFPA-compliant LPG pipeline layouts and maintained installation inspection logs.

TECHNICAL SKILLS

Programming: Python (NumPy, pandas, scikit-learn, OpenCV, PyTorch), MATLAB, C/C++ (Arduino), ROS
Machine Learning & AI: CNN, LSTM, CNN–LSTM hybrids, feature extraction, classical CV, PyTorch training pipelines
Robotics & Simulation: A*, RRT, PF, Multi-agent navigation, PyBullet, kinematics, IMU filtering, UGV/UAV
Embedded & Systems: Microcontrollers, UART/I²C, PWM servos, basic PCB development, sensor integration
Tools: Git, Jupyter, SolidWorks/AutoCAD (support level), MATLAB/Simulink, ROS, Python scientific stack
Languages: English (Fluent), French (A2 – currently improving), Arabic, Kurdish