

FAIZAN AHMED SYED

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TECHNICAL SKILLS

Programming & Development: Python, C/C++, Java, Linux, Git, software debugging, technical reporting

AI/ML & Computer Vision: Machine learning, deep learning, scikit-learn, YOLOv8, OpenCV, LLM/NLP integration, model fine-tuning

Robotics, UAVs & Embedded Systems: ESP32, Raspberry Pi, Arduino, ROS 2, ArduPilot, INAV, sensors, GPS, telemetry, I2C/UART, Wi-Fi/TCP, inverse kinematics

CAD & Prototyping: Fusion 360, AutoCAD, Autodesk Inventor, SolidWorks, 3D printing, electronics integration

EXPERIENCE

Research Robotics Engineer Intern — Amity Innovation & Design Centre (AIDC) | 04 May–10 Jul 2026

- Designed and developed MIRA, autonomous drones and a custom 12-DoF quadruped, integrating robotics hardware, sensors, embedded control and AI.
- Guided and mentored students in robotics, electronics, microcontrollers and UAV technologies through hands-on builds, testing and demonstrations.

Freelance Engineering & AI Developer — Independent Projects

- Design, build, test and document electronics, UAV/UGV, robotic and counter-drone technology projects, product prototypes and CAD models for students and startups.
- Develop AI/ML applications (model training and fine-tuning), technical dashboards, research deliverables and engineering reports.

Trainee Engineer — Strong Hand Contracting Co., Jeddah, Saudi Arabia | May–Jun 2023

- Assisted with supervised engineering work related to the SOS Laboratory gas-distribution system at Zahid Business Park, alongside a consultant and lab specialist.

PROJECTS

MIRA — Multimodal Intelligent Robotic Assistant | Feb-Jul 2026

- Built a mobile multilingual AI robot capable of natural conversation, facial/object recognition, web research, contextual memory and project planning.
- Integrated Raspberry Pi 5, ESP32-based locomotion, cameras/sensors and LLM-driven speech/vision pipelines for interactive autonomous assistance.

NEXUS — VTOL Drone and Autonomous Rover Docking System | 2026–Present | Ongoing

- Developing a cooperative air-ground robotics platform combining a tilt-VTOL UAV and rover for coordinated missions and autonomous docking.
- Designed UAV/UGV mechanical and power architectures, sensor/telemetry integration and a mechanical docking concept; autonomy and precision docking remain in development.

Custom 12-DoF Quadruped Robot | May-Jul 2026

- Designed and built a medium-scale quadruped with standing, sitting and basic walking motions, iterating five mechanical prototypes.
- Engineered 3D-printed linkages, 12 high-torque servos, power distribution and ESP32/PCA9685 control with inverse-kinematics-based gait programming.

Hybrid Drone-Rover System | 2025–2026

- Developed a dual-mode F450 quadcopter/wheeled rover operated using one radio transmitter for integrated air-ground mobility.
- Integrated F722 flight control, brushless propulsion, ESP32/L298N drivetrain, receiver mode switching, sensors and Wi-Fi telemetry.

AI Firefighting Rover | Oct-Jan 2025-26

- Built an AI-guided mobile firefighting prototype combining fire detection, target tracking and an extinguishing mechanism.
- Fine-tuned a YOLOv8 vision model and linked laptop-based Python inference to ESP32 movement/control over Wi-Fi TCP.

Autonomous Drone Navigation & Aerial Vision | Aug-Sep 2026

- Tested GPS waypoint missions and live flight telemetry and applied object-detection models to footage from autonomous drones.
- Configured flight controllers, GPS/radio telemetry links and ground-control software for navigation testing and aerial perception experiments.

RESEARCH & PUBLICATIONS

Autonomous Cyber Defense: An AI-Based Self-Healing Framework — IEEE CCICT conference paper, 2026; Random Forest intrusion detection, UNSW-NB15 and automated mitigation. [IEEE Xplore](#)

Brain-Computer Interface Assisted Autonomous Systems Using DNNs — Book chapter, under review.

AI-Assisted Signal Quality Assessment and Lightweight Mental State Classification — Book chapter, under review.

CERTIFICATIONS & AWARDS

Certifications: Software Testing; Python for Data Science; Advanced Robotics; Neural Networks for Computer Vision & NLP; AutoCAD Mastery; CCNA Introduction to Networks CISCO

Awards: 1st Prize, India Space Week 2026 (MIRA); 2nd Runner-Up, Technovate 2026 (Hybrid Drone-Rover)

EDUCATION

Amity University, Noida, India | B.Tech, Computer Science and Engineering (ASET) | 2023–2027 (ongoing)

CGPA: 8.7 (cumulative through Semester 6)