MUHAMMAD HAMZA

SOFTWARE ENGINEER

Python Developer | Ai / Engineer | Maherhamza4616@gmail.com | +92302-4842593

PROFESSIONAL SUMMARY

Motivated **Software Engineering 3rd year student (6th Semester, CGPA 3.74)** at University of Okara with strong skills in **Python, AI/ML, and systems development**. Passionate about applying computational methods to **engineering challenges**, including **simulation, UAV systems, and automation**. My recent research on **hybrid deep learning for intrusion detection** can be extended to **UAV communication networks**, where cybersecurity is critical for safe operation. By combining expertise in **AI and automation** with UAV-focused engineering, I aim to contribute to the development of **intelligent, secure, and autonomous aerospace systems**.

TECHNICAL SKILLS

- **Programing Languages:** Python, SQL
- **Frameworks & Libraries:** Django, NumPy, Pandas, Matplotlib, Seaborn
- **Tools & Platforms:** Git, GitHub, Kaggle, Jupyter Notebook, VS Code, Postman
- **Specialized Skills:** Ai, Machine Learning, Data Science, Simulation, Automation, API Integration, Web Development (Django, Flask)

EDUCATION

BS Software Engineering

University of Okara, Pakistan • 2022–2026 (In Progress, 6th Semester)

Current CGPA: **3.74 / 4.00**

PROJECTS

- **Autonomous Drone Flight Simulation (Python + ROS)**
  Developed a simulation model for UAV flight path planning using Python and Robot Operating System (ROS). Implemented obstacle avoidance algorithms and tested control systems in a virtual environment.
- **Satellite Image Classification using Deep Learning**
  Applied CNN-based models to classify land cover and detect objects from satellite imagery datasets. Focused on preprocessing, feature extraction, and accuracy optimization.
- **Aircraft Engine Fault Prediction (ML Project)**
  Designed a machine learning pipeline to predict failures in turbofan engines using NASA open datasets. Achieved high accuracy through ensemble learning and anomaly detection techniques.
- **Timetable Management System (For University of Okara)**
  Developed a Django-based web application to automate timetable scheduling for the Computer Science department.
- **Automatic send Connection request on LinkedIn by Python Automation code**
- **AI-Driven Intrusion Detection for Critical Systems (Research Project)**
  Designed a hybrid deep learning model (TabNet + Transformer + Cross-Attention) for intrusion detection using CIC-IDS 2017 dataset. This work demonstrates how advanced AI techniques can strengthen the cybersecurity of **UAVs and aerospace systems**, ensuring reliability of communication and control networks.

EXPERINCE

Freelance Python Developer & ML Engineer

Fiverr (Remote) | Level 1 Seller | 2023 – Present

- Delivered 12+ international projects in Python automation, data analysis, and AI/ML.
- Worked with clients on predictive modeling, automation scripts, and web solutions.

CERTIFICATIONS & ACHIEVEMENTS

- Kaggle **Notebook Expert Badge** – Published multiple ML/DL notebooks.
- **Data Analytics & EDA** (Coursera)
- Fiverr **Level 1 Seller** – Consistent delivery & client satisfaction

WORK PROFILES

LinkedIn: https://www.linkedin.com/in/hamzzaz **Kaggle**: https://www.kaggle.com/muhammadhamzamaher

GitHub: https://github.com/Hamza-code-hub **Fiverr**: https://www.fiverr.com/sellers/maher_hamza4616

Published Research:

Title: *3D-MobiBrainNet: Multi-class Alzheimer's disease classification using 3D brain magnetic resonance*

This research not only improved classification accuracy but also emphasized computational efficiency and spatial data analysis. These skills are directly applicable to UAV simulations, 3D modeling, sensor integration, and autonomous navigation in aerospace systems.
Paper DOI: https://doi.org/10.1016/j.asej.2025.103714