

Fazeel Asghar

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Professional Summary

AI Engineer and Machine Learning Specialist with expertise in, Computer Vision, Medical ML and Autonomous AI Systems. Passionate about transforming industries through innovative AI solutions, optimizing workflows, and building scalable architectures. Experienced in SaaS, PaaS, and IoT, integrating AI for real-world impact. Strong background in Deep Learning, Computer Vision, and MLOps, with a track record of developing intelligent systems for healthcare, autonomous vehicles, and predictive analytics. Active in AI research and open-source contributions, aiming to push the boundaries of technology.

Technical Skills

Programming & Development:

- Languages & Frameworks:** Python, Scikit-Learn, TensorFlow, Keras, Django, NLTK, Hugging Face Transformers, OpenCV, FastAPI, Flask, Django, Streamlit.
- Tools & Libraries:** Pandas, NumPy, Matplotlib, Seaborn, Folium, OpenAI API, REST APIs, Docker, GitHub Actions, CI/CD Pipelines.
- Database Systems:** SQL, NoSQL (XAMP, MySQL, MongoDB Atlas).

Data Science & AI:

- Core Skills:** Machine Learning, Deep Learning, Natural Language Processing (NLP), Time Series Analysis, CNN, RNN, Object Detection, YOLO, Model Deployment, Prompt Engineering.
- Frameworks & Tools:** LangChain, RAG (Retrieval-Augmented Generation), LlamaIndex, LangGraph, LangGraph, PhiData, LangServer, AutoGen, LangSmith, AutoML.
- Applications:** AI-Driven Process Automation, Predictive Modeling, Statistical Analysis, Data Visualization, Machine Learning Pipelines.

Cloud & MLOps:

- Platforms:** AWS (EC2, ECR, S3, IAM, IVS).
- Practices:** MLOps, AIOps, Cloud Machine Learning, MLflow, Docker, CI/CD, DVC, Kubernetes.

Management & Operations:

- Agile Methodologies, Microservices Architecture, Business Analysis, Team Leadership, Business Intelligence.

Languages:

- Fluent in English and Urdu.

Experience

Junior AI Engineer

Bahawalpur, Pakistan

Safe-RH Lab

06/2023 – 06/2024

- Contributed to the Development of CFRH Rural Health Monitoring System:** Actively participated in the international Safe-RH project, collaborating with universities from Pakistan, University of the West of Scotland, and University de Lorraine (France) to develop a Rural Health Monitoring System. This system allows real-time collection of vital signs, sending them to doctors for immediate diagnosis and prescription.
- Integrated IoT & Machine Learning for Remote Health Monitoring:** Contributed to the design and deployment of an IoT-based health monitoring system that enables real-time data collection and transmission to healthcare providers for timely intervention.
- Optimized Data Pipelines for Real-Time Health Insights:** Worked on optimizing the data flow between IoT sensors and cloud platforms, ensuring real-time transmission of vital signs to doctors, enhancing efficiency in remote healthcare management.
- Cross-Functional Collaboration & Research Execution:** Collaborated with multidisciplinary teams from multiple universities, aligning research goals with technical implementation, ensuring seamless integration of AI-driven systems in healthcare environments.
- Mentorship & Knowledge Sharing:** Supported team members in AI, ML, and IoT, providing mentorship and fostering innovation within the team, driving advancements in remote health monitoring.
- Key Achievements:** Successfully contributed to the development of a scalable, real-time Rural Health Monitoring System, enhancing remote healthcare delivery and patient care.

Research Internee

Scotland, United Kingdom

UWS

06/2024 – 08/2024

- Proposed and Developed a Smart Wheelchair with Obstacle Detection & Vital Signs Monitoring:** Initiated research under the Safe-RH Mobility Program, proposing an AI-powered smart wheelchair for continuous patient monitoring and automated alerts for doctors. The project was accepted as part of the program.
- Engineered Obstacle Detection & Avoidance System:** Developed a functional prototype of a smart wheelchair with real-time object detection and obstacle avoidance using Arduino, Ultrasonic Sensors, Infrared Sensors, and a Camera, ensuring safe navigation.
- Explored IoT-Enabled Vital Signs Monitoring:** Designed a framework to integrate IoT-based health monitoring, aiming to track critical patient vitals and send real-time notifications to doctors for proactive healthcare intervention.
- Optimized Embedded Systems for Autonomous Navigation:** Implemented efficient sensor fusion and data processing techniques to enhance wheelchair movement and environmental awareness.
- Cross-Institutional Research Collaboration:** Worked with researchers from UWS and other partner universities, aligning AI and IoT applications with assistive healthcare technology advancements.
- Key Achievements:** Successfully developed a functional small-scale smart wheelchair prototype capable of real-time obstacle detection and autonomous movement, laying the foundation for future integration of vital signs monitoring in assistive mobility solutions.

Education

Bachelor in Information Technology (Major: Artificial Intelligence and CS)

Islamia University of Bahawalpur

CERTIFICATIONS

- IBM Machine Learning with Python Certificate, IBM.
- Machine Learning Specialization, DeepLearning.ai.
- Data Visualization with Python, IBM.
- Research Internee, University of the West of Scotland