Alishba Bacha

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Personal statement

As an AI specialist with a strong passion for computer vision, reinforcement learning, and embeded systems. I am skilled in developing intelligent systems, from AI-driven medical diagnostics to smart automation solutions. I have experience in deep learning algorithms, Flutter app development, web technologies, and small robots, with a focus on building scalable and impactful AI applications. I am eager to apply expertise in machine learning, software dvelopment and embeded systems to drive innovation.

Education

Ghulam Ishaq khan Institute of Engineering Sciences And technology sep. 2022 – Present
Bachelors Student in AI *Topi, Swabi*

CGPA: 3.35

Internships

Junior Flutter Intern May 2024 - July 2024
AppSpot Solution *Peshawar, PK*

- Maintained cross-platform mobile applications using Flutter framework.
- Optimized app functionality and ensured seamless user experiences.
- Collaborated with developers to debug and enhance application performance.

Frontend Developer Intern June 2024 - July 2024
Interns Pakistan *Remote*

- Designed and implemented user-friendly web interfaces using modern frameworks.
- Ensured responsive design for optimal performance across devices.
- Practiced interactive website designing to improve user engagement.

Projects

Smart Attendance System

- Developed a system using YOLOv8 for real-time student face detection.
- Built a backend with Flask and SQLite for attendance management.
- Processed group images to mark attendance automatically.
- Integrated user authentication and designed an interactive frontend using HTML/CSS/JavaScript.

Next-Gen Digital Twin Optimization for Latency and Power Efficiency in Multi-Tier Systems

- Created a resource management framework for multi-tier computing systems using digital twins.
- Implemented reinforcement learning (Q-Learning, PPO, MADRL) for dynamic resource allocation.
- Designed real-time synchronization models with LSTM and GRU to reduce latency in edge-cloud environments.

Glioma prediction

- Developed an explainable AI (XAI) tool for glioma classification using machine learning.
- Integrated SHAP-based interpretability to enhance clinical decision-making.
- Built a Flask-based web application for risk prediction (LGG/GBM) and interactive visualizations.

Certifications

Specialization: Python for Every body From University of Michigan
Team Techno: Captain of Techno; Robotics Team at GIKI
SPIE. Optica: Women in optics of Photo-Optical Instrumentation Engineers Society at GIKI
Deans Roll of Honor:Distinctions certificate

Skills

OS: Windows, MacOS
Programming Languages: C/C++ for embedded systems, Python for AI/ML, SQL for databases, JavaScript for web apps.
Libraries: OpenCV for computer vision, TensorFlow/PyTorch for deep learning, Scikit-learn for ML models.
Writing: LaTeX/Overleaf for docs, Microsoft Office for collaboration.
Languages: Pashto (native), English (conversational).
Frameworks:Flask for backend, Flutter for mobile apps, React/Node.js for web, Bootstrap for responsive design.
Robotics: Ground vehicle design, PID algorithms for control systems.