Farhaan Khan

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Summary

Machine Learning Engineer focused on computer vision and quantum-inspired algorithms. Experienced in building scalable backend systems and developer tools using Python, PyTorch, C++, and Docker. Proven ability to lead research-driven projects from concept to publication.

EDUCATION

Vellore Institute of Technology

Vellore, India

B. Tech in Computer Science and Engineering (Blockchain Technology)

Sept. 2022 - May 2026

EXPERIENCE

Alfaleus Tech (Med-tech startup)

Hyderabad, India

Software Developer Intern

June 2025 - Aug. 2025

- Led backend development for an internal platform (Flask, PostgreSQL) supporting 3+ tools.
- Collaborated with 4 teams to drive integration and guide technical decisions.

Elektromag (Industrial electronics)

Remote

Software Developer

Jan. 2025 - Apr. 2025

• Automated reporting and streamlined data processing, achieving 4× reduction in operational workload.

Imaginate XR (AR/VR simulations)

Hyderabad, India

Computer Vision Research Intern

June 2024 - July 2024

• Optimised 3D reconstruction pipeline using OpenCV and PyTorch, reducing rendering latency by 30%.

PROJECTS

Quantum-Enhanced Deepfake Detection | Python, PyTorch, Qiskit, QAOA

2025

- Developed a quantum-hybrid framework that improved deepfake detection accuracy by **2.5 percentage points** over classical baselines on the FaceForensics++ benchmark.
- Engineered a QAOA-based feature selection module and a quantum-inspired attention mechanism to reduce redundancy and capture subtle manipulation artifacts.
- Achieved a 45% reduction in model calibration error and enhanced forensic interpretability using Grad-CAM.

Visor: Multi-Language Code-to-Flowchart Visualization | TypeScript, Tree-sitter, Mermaid.js

2025

- Built a VS Code extension with **500+ downloads and 60+ GitHub forks**, enabling real-time interactive flowchart generation for Python, C++, Java, Rust, and more.
- Implemented bidirectional navigation between code and flowcharts, enhancing debugging and comprehension.
- Integrated cyclomatic complexity analysis with visual indicators for code quality.

Amazon Price Tracker | GenAI, Python, Google Search APIs

2025

- Developed a GenAI-powered price-drop alert system comparing Amazon, Flipkart, and Meesho.
- Enabled smarter purchasing by notifying users in real time of price drops.

CERTIFICATES

AWS Certified Cloud Practitioner

KEY ACHIEVEMENTS

- Top 10 in stream with a CGPA of 9.09 / 10.
- 3× Merit Scholarship recipient for academic excellence.
- Visor extension reached 500+ users and 60+ forks on GitHub, showcasing global adoption and developer impact.

TECHNICAL SKILLS

Languages: Python, C++, TypeScript, Solidity

Libraries & Tools: PyTorch, TensorFlow, OpenCV, Pandas, Docker, AWS, Flask, React

Databases: PostgreSQL, MongoDB

Key Areas: Computer Vision, Deep Learning, Quantum-Inspired ML, System Design, Git