Umarani M

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Summary

Aspiring QML Engineer with a strong interest in machine learning and quantum computing. Skilled in Python and using tools like Qiskit for developing algorithms. Experienced in building web applications with Django and managing databases with PostgreSQL. Familiar with machine learning techniques and quantum algorithms. Excited to work on innovative projects.

Work Experience

Quantum Computing Developer Intern **Apr 2024 – July 2024**
KwantumG Research Labs Pvt. Ltd., Bangalore

- Collaborated with the research team to explore real-world use cases of quantum algorithms in classification, pattern recognition, and language understanding.
- Developed the backend of demo.kwantumg, a sandbox-style learning platform enabling beginners to experiment with quantum algorithms using popular frameworks.
- Built and maintained the platform using Django and PostgreSQL, ensuring scalable backend operations and smooth integration with quantum libraries.

Education

B.Tech in Information Technology - 8.71/10 **2022 - 2026**
KPR Institute of Engineering and Technology

Projects

demo.kwantumg Platform **demo.kwantumg.com**

- Developed the back end of an interactive web platform designed to help beginners explore and experiment with quantum algorithms in a sandbox-style environment.
- Implemented Django-based backend architecture and integrated PostgreSQL for secure and efficient data management.
- Integrated multiple quantum computing frameworks to enable real-time experimentation and simulation of quantum circuits.

Liver Disease Prediction System **liver_prediction**

- Developed a machine learning-based system to predict liver diseases with high accuracy using a Voting Classifier that combines Random Forest and Decision Tree algorithms.
- Focused on enhancing diagnostic accuracy and aiding early detection of liver-related health issues.
- The system has been submitted as a research paper to a SCI-indexed journal and is currently under review for publication.

Potato Leaf Disease Prediction System **potato_disease**

- Developed a web-based system for accurate prediction of potato leaf diseases using a trained CNN model.
- Implemented the backend using Django to handle data processing and model integration.
- Designed a responsive and user-friendly front end using HTML, CSS, and JavaScript.

Skills

Programming Languages: C, Python, Java (Basic)
Frameworks: Django, Qiskit
Databases / Tools: PostgreSQL, MySQL, Ubuntu, Figma
Version Control: GitHub
Soft Skills: Analytic Thinking, Team Coordination, Efficient Planning, Problem Solving

Achievements

- **Competitive Coding:** 5-star gold badge in Problem Solving (HackerRank), 200+ problems solved on LeetCode.
- **Certifications:** Elite+Silver in Foundations of R Software (NPTEL), Introductory course on Quantum Computing (IISER Pune).
- **Leadership:** Chair of IEEE Information Theory Society.