Bobby Valsaraj

Scientific Assistant | Software Engineer | AI/ML Developer

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Professional Summary

Scientific Assistant in the Computer Division at BARC Hospital with strong academic grounding in Computer Science and hands-on experience in software development and applied AI/ML systems. Skilled in designing end-to-end applications including Java/MySQL desktop systems, cloud-integrated AI workflows, and federated learning pipelines. Passionate about healthcare technology, edge AI, and building reliable, well-documented software systems that bridge research and real-world deployment.

Experience

- Provide technical support and system-level assistance in a hospital computing environment, ensuring reliability and security.
- Assist in software-related tasks including system configuration, troubleshooting, documentation, and workflow automation.
- Apply software engineering best practices such as structured debugging, version control, and clear documentation.

Education

MSc Computer Science – School of Distance Education, University of Kerala

Technical Skills

- Programming: Python, Java
- Databases: SQL, MySQL
- AI/ML: TensorFlow, Federated Learning (Flower)
- Cloud & Tools: AWS (S3, IAM, CLI), Flask, Git/GitHub
- Development Tools: Apache NetBeans, Java Swing

Key Projects

- Cloud-Based Healthcare Diagnostics Using AI – TensorFlow-based diagnostic system with AWS cloud integration.
- Federated Learning on Edge Devices – Privacy-preserving collaborative training using Flower and TensorFlow.
- Blood Donors Master Database Management System – Java/MySQL desktop application with role-based access.
- UPI QR Code Generator – Java GUI-based application for generating and managing UPI QR codes.

Research Interests

Federated Learning, Privacy-Preserving AI, Healthcare AI Systems, Edge–Cloud Architectures