Mohammed Safvan

System Software Engineer

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Experience

ZACKRIYA SOLUTIONS | Software Engineer

Trivandrum, India

- Led the development and maintenance of cross-platform C++ applications using the Qt framework with QML-based UIs, delivering responsive and scalable user experiences.
- Developed internal C++ system utilities to streamline development workflows and enhance module interoperability.
- Directed the fine-tuning of a Vision-Language AI model to convert diagram images into structured knowledge graphs; deployed the final model on Hugging-Face for open access leveraging PEFT, Pandas, Pydantic AI, Qwen-VL.

GPS RENEWABLES | Software Developer Intern

Trivandrum, India

- Upgraded internal tools by adding key features that enhanced usability and reduced operational friction across teams.
- Built secure, full-stack modules using Nuxt.js, FastAPI, and SQLModel/PostgreSQL; improved reliability and streamlined authentication with Auth.js.
- Collaborated with cross-functional teams to streamline project tracking and deployment workflows by integrating with OpenProject.

Projects

SYSTEM MONITOR | C++, Qt, QML, Material Design -Zackriya Solutions

- Modular Linux system-monitor using C++/Qt and Material-styled QML UI for responsive hardware stats visualization.
- Applied MVVM architecture: core logic in C++, ViewModels linked to QML views via Qt bindings for clean separation and extensibility.
- Focused on modular design for CPU, memory, and disk monitoring, laying groundwork for future platform support.

SYSTEM UTILITIES | C++, CMake -Zackriya Solutions

- Created a collection of C++17 utilities, parsers, code generators and automation scripts, to accelerate internal development
- Designed and shipped a lightweight multithreaded TCP command server with an embedded key–value store with socket programming and concurrency in mind.
- Packaged common functionality into a reusable RAII-driven utility library for filesystem, subprocess and string operations, promoting consistency across projects.
- Authored portable CMake toolchain files and build presets, enabling reproducible out-of-tree builds and frictionless CI across Linux, Windows and macOS.

DIAGRAM2GRAPH | Python, Qwen-VL, PEFT, Neo4J -Zackriya Solutions

- Fine-tuned Qwen-VL-3B (via LoRA) to extract graph data from diagrams as Neo4J-compatible JSON, improving edge-F1 by 23%.
- Built a private FastAPI-based inference pipeline with no dependency on external APIs.
- Released demo-ready Hugging Face model and Python interface for reproducible, developer-friendly usage.

Skills

PROGRAMMING

C/C++ • Python • JavaScript
HTML • CSS • Dart • SQL

LIBRARIES/FRAMEWORKS

QT/QML •CMake • Node.js
React • Next JS • FastAPI
LlamaIndex • Pydantic
Pytorch • Flutter • Tensorflow
MCP • CrewAI

TOOLS/PLATFORMS

Git • Docker • Huggingface
Linux • Kaggle • Lightning AI

Achievements

HACKTOPIA 24-HOUR

Second Place

Secured 2nd place in a hackathon organized by CSI SCT SB.

Education

SREE CHITRA THIRUNAL COLLEGE OF ENGINEERING

B.Tech in AI/ML

Trivandrum, India

Dept. of Computer Science

MA'DIN POLYTECHNIC COLLEGE

Diploma in Computer Engineering

Malappuram, India

Dept. of Computer Engineering

References

Sujith S, CTO, Zackriya Solutions

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