

# Muhammad Shafaf

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## Professional Summary

Experienced software engineer transitioning to AI and machine learning roles. Bringing over 3 years of expertise in backend and full-stack development with transferable skills in scalable system architecture, cloud environments, and Agile methodologies. Proven ability to spearhead API redesign and optimize performance, leading to a 60% reduction in response times and tripling concurrent user capacity. Eager to contribute to AI and machine learning fields with innovative, data-driven solutions that drive business growth and technical excellence. Actively exploring and passionate about AI/LLM tools such as Hugging Face, Copilot, and Cursor, with a strong commitment to continuous learning and applying emerging technologies.

## Work Experience

### Software Engineer | Python, Flask, PostgreSQL, AWS, CI/CD – Zennode Technologies

Jan 2022 – June 2025 | Kerala, India

- Spearheaded redesign of RESTful APIs using Flask and Redis caching, reducing average response time from 900 ms to 350 ms and tripling concurrent user capacity.
- Led architecture discussions, applying architectural thinking to resolve complex technical challenges and ensure high system scalability and reliability.
- Authored comprehensive API documentation and developer guides, demonstrating strong technical communication that facilitated seamless knowledge transfer and accelerated onboarding.
- Designed and managed PostgreSQL schemas using schema-based multi-tenancy isolation, creating fully isolated tenants per user (e.g., 100 users = 100 tenants). Utilized SQLAlchemy and Alembic for database migrations, ensuring scalable and secure data architecture for multi-tenant SaaS applications.
- Championed Agile practices and conducted thorough code reviews, driving continuous improvement that boosted code quality and accelerated development cycles.
- Engineered and maintained CI/CD pipelines with Docker containerization and GitHub Actions, managing advanced Git workflows including branch management (main for production, develop for staging), code reviews, issue tracking with templates, and automated testing and deployment to AWS, significantly improving deployment efficiency and collaboration.
- Administered AWS cloud environments for scalable SaaS applications, ensuring robust security, compliance, and optimal performance.
- Developed and optimized React-based front-end services, implementing code-splitting, lazy loading, and caching to reduce load times by 20% and enhance user experience.
- Created strategic marketing tools for competitor analysis, enabling data-driven product improvements and supporting business growth initiatives.

### Software Developer Intern | JavaScript, Python, PHP, HTML, CSS – Zennode Technologies

Sep 2021 – Jan 2022 | Kerala, India

- Collaborated with the team lead to develop a responsive web application, ensuring high-quality design and functionality.
- Focused on Python-based services and feature development.

## Education

### MANIPAL UNIVERSITY JAIPUR – Rajasthan, India

September 2026

MCA- AI and Machine Learning

Currently pursuing a Master's in Computer Applications with a specialization in AI & Machine Learning at Manipal University through an online program.

### ANNAMALAI UNIVERSITY – Tamil Nadu, India

2023

BCA, Computer Science

Completed the Bachelor of Computer Application programme, specializing in computer science.

## Skills

**BACK END DEVELOPMENT:** Python, Flask, FastAPI, RestAPI, SQLAlchemy

**FRONT END DEVELOPMENT:** JavaScript, React.js, HTML, CSS, Tailwind

**DATABASE & SERVICES:** PostgreSQL Database, MySQL, AWS, EC2, S3

**TOOLS:** Docker, Celery, Redis, Postman, Git, GitHub Actions, CI/CD

**SOFTSKILLS:** Team player, Agile Practice, Deliver results, Critical Thinking