

Rahul Vinayak

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Professional Summary

- Technical Author with a strong software engineering background and 3+ years of experience working on backend systems, AI platforms, and production-grade services. Strong ownership of technical documentation, including APIs, system architectures, data pipelines, and operational workflows used by engineering and platform teams. Comfortable in Linux environments with command-line tools, Git-based workflows, cloud deployments, and system operations. Brings a programmer's mindset to documentation, focusing on clarity, correctness, and long-term maintainability.

Education

CMR Institute of Technology, B.Tech in Information Science and Engineering **Jul 2019 – Aug 2023**
• CGPA: 8.1/10.0 ([Marksheet](#))

Work Experience

Technical Author / Software Engineer, GoComet India Pvt. Ltd. – Bengaluru, India **Apr 2025 – Aug 2025**

1) LLM-Driven Hazard Classification & GenAI Booking Assistant System

- Owned and maintained internal technical documentation covering model architecture, data flow, system APIs, and deployment setup for engineering and operations teams.
- Documented end-to-end workflows including data ingestion, inference pipelines, error handling, and monitoring.
- Reviewed and updated documentation alongside code changes to ensure accuracy as systems evolved.

2) Recommendation System for Real Estate Webpages

- Designed and implemented a machine learning API for personalized property recommendations.
- Authored technical documentation describing recommendation workflows, feature inputs, model selection trade-offs, and API integration for frontend and backend teams.

3) Data Validation System

- Designed and documented a data validation system to detect anomalies impacting machine learning models and downstream analytics.
- Implemented a wrapper interface around AWS Deequ and developed reusable validation extensions in Scala.

Technical Author / Backend Engineer, GoQuant Technology – Miami, USA **Jan 2025 – Mar 2025**

1) Real-Time Analytics & Performance Engineering for Crypto Trading Platform

- Authored and maintained technical documentation for analytics pipelines, data preprocessing steps, metrics definitions, and performance optimization strategies.
- Documented system assumptions and operational guidelines used by engineering and analysis teams.

Associate CX Cloud Developer (Integration & Documentation Focus), CRMIT Solution Pvt. Ltd. – Bengaluru, India **Jul 2023 – Nov 2024**

1) MuleSoft-Based Middleware Replatforming for Retail & Manufacturing

- Designed and implemented MuleSoft integration flows connecting Salesforce Commerce Cloud (SFCC) with ERP systems via SFTP.
- Owned technical documentation for integration architecture, data transformation logic, API contracts, deployment steps, and troubleshooting.
- Exposed an AI validation service as a FastAPI microservice and documented its integration with existing middleware, improving data processing performance by 40%.

2) AI-Driven Service Cloud Automation & Next Best Action Engine

- Implemented Salesforce Service Cloud features including Omni-Channel routing, Knowledge setup, and automated workflows.

- Documented Service Cloud configurations, workflow logic, and integration points.
- Developed and documented a recommendation engine using embeddings to deliver “Next Best Action” suggestions.

Software Engineering Intern, Cognizant Technology Solutions – Bengaluru, India

Apr 2022 – May 2023

1) Backend Development Internship for Telecom Operations

- Implemented backend workflows and APIs using .NET, following clean architecture and version-controlled development practices.
- Maintained supporting technical documentation under senior engineer guidance. Service operations.

Projects

1) Classification of Trash Based On Recyclability (Apr 2022 – Jul 2022) | [Link](#)

- Developed a deep learning-based garbage classification system to automatically sort waste into six categories (cardboard, glass, metal, paper, plastic, trash), achieving 92.96% accuracy.
- Authored technical documentation describing model architecture, data preprocessing steps, training workflow, and deployment using TensorFlow Serving.
- **Techstack** : **Backend** : Python 3.9+ **Framework** : TensorFlow, Keras **Data Processing** : NumPy, OpenCV, Pandas **Visualization** : Matplotlib, Seaborn **Model Deployment** : TensorFlow Serving **Version Control** : Git, GitHub

2) Insurance Claim Processing Automation (Jun 2023 – Aug 2023) | [Link](#)

- Built a multi-stage LLM pipeline using CrewAI crews to coordinate tasks such as document parsing, fraud detection, policy lookup, and score reasoning, improving decision accuracy and reducing manual review time by 40%.
- Documented the end-to-end agent workflow, system architecture, and integration points to support maintainability and future extensions.
- **Techstack**: Python 3.9+, CrewAI, LangGraph, LangChain, OpenAI GPT, ChromaDB (vector store), Streamlit, FastAPI, stateful multi-agent orchestration.

3) Implementation of DROID-SLAM on Jetson AGX (Jan 2024 – Feb 2025) | [Link](#)

- Implemented DROID-SLAM, an advanced Simultaneous Localization and Mapping (SLAM) system, on the NVIDIA Jetson AGX ORIN developer kit. The project enables real-time 3D mapping and localization using RGB-D cameras, specifically optimized for edge computing applications.
- Authored technical documentation covering system setup, hardware configuration, deployment steps, and performance evaluation.
- **Techstack** : **Hardware** : NVIDIA Jetson AGX ORIN Developer Kit, OAK-D RGB-D Camera **Frameworks** : PyTorch 2.0.0, OpenCV, Open3D **Development Environment** : Python 3.7.11, Conda environment, management JetPack 5.1 (L4T R35.2.1) **Libraries** : NumPy, SciPy, Matplotlib, Pandas, GPUtil, scikit-image, scikit-learn, EVO (for SLAM evaluation) **Visualization Tools** : Open3D for 3D point cloud visualization

Technologies

Programming Languages : Python, Java, JavaScript, Scala, SQL

Systems & Platforms : Linux, Command Line Interface (CLI), Git, GitHub, Docker, Kubernetes

Documentation & Tooling : Markdown, reStructuredText, API documentation, technical diagrams, version-controlled documentation

AI & ML Frameworks : PyTorch, TensorFlow, Hugging Face Transformers, LangChain, LangGraph, CrewAI, vLLM

Data & Retrieval Systems : Pandas, NumPy, spaCy, ChromaDB, FAISS, Neo4j

Cloud & DevOps : AWS (EC2, ECS, SageMaker), GCP Vertex AI, MLflow, DVC, CI/CD with GitHub Actions and Jenkins

Monitoring & Infrastructure : CloudWatch, Prometheus, Grafana, NGINX

APIs & Microservices : FastAPI, Flask, REST APIs, gRPC, event-driven microservices

Certifications : AWS AI Practitioner Certification — AWS; MuleSoft Certified Developer Level 1 (Mule 4)