

Vinay Shetye

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(Open to Relocate)

PROFESSIONAL SUMMARY

Software Engineer with 4+ years of experience across backend, full-stack, and AI-assisted application development, building production systems in e-commerce, payments, and workflow automation. Strong background in Java, Python, Node.js, React, APIs, databases, and cloud-native development, with hands-on work in LangGraph, RAG, MCP, and multi-agent workflows. Built and supported scalable business platforms, backend integrations, and structured AI-driven systems with a practical focus on reliability, usability, and real-world impact.

AWARDS, RECOGNITION, CERTIFICATIONS

- [View Certifications](#)
- 1st Place, Code for Cash Challenge, HeartCentrix Solutions (Dec 2025)
- Winner, TechTwister 2K19 Software Project Competition
- Bronze Medal, Inter-Collegiate Chess Tournament, Goa University (Sept 2016)
- Gold Medal, Inter-Higher Secondary College State-Level Chess Championship, Sports Club Goa (Sept 2013)
- Represented Goa at the 55th and 57th National School Games Chess Tournaments (2010, 2011)

WORK EXPERIENCE

ACCENTURE

Software Engineer

TEXAS, US

Oct 2025 - Present

Driving efficiency by building AI-assisted safety and incident-response workflows, integrating real-time NLP classification, trust scoring, secure access controls, and distributed backend orchestration to deliver scalable, production-ready solutions.

AI-Assisted Community Safety Incident Reporting Platform - *Delivered a privacy-first, AI-powered incident reporting workflow that enabled anonymous reporting, real-time semantic triage, trust-based routing, and targeted alert dispatch across community safety operations.*

- Delivered a privacy-first, **AI-powered incident reporting workflow** that enabled anonymous reporting, **real-time semantic triage**, **trust-based routing**, and **targeted alert dispatch** across community safety operations.
- **Developed and scaled** a distributed microservices-based platform using Node.js for orchestration and Python FastAPI for AI/NLP classification, enabling scalable incident intake, verification, and dispatch workflows.
- **Built a BERT / semantic-transformer based triage engine** to score incident severity in real time, supporting high-priority routing decisions with sub-200ms verification and dispatch behavior.
- **Designed a Zero-Knowledge Trust Protocol** using FingerprintJS, Cloudflare Turnstile, rate limiting, semantic matching, and crowd-surge validation to reduce false or abusive reports while preserving anonymity.
- **Implemented trust-based routing and guardrail logic** where low-trust reports were shadow-banned, medium-confidence incidents were routed for review, and verified high-severity threats triggered immediate **WhatsApp alert dispatch**.
- **Integrated role-based access control and PostgreSQL Row-Level Security** to enforce operator-level data isolation and secure incident visibility across **geofenced Safety Circles**.
- **Built targeted notification workflows and dashboard operations** for incident review, dispatch tracking, audit logging, and response actions across a privacy-first operational system.
- **Containerized and deployed** the services using Docker, AWS S3, FastAPI, and PostgreSQL RLS to support scalable incident processing, low-latency AI verification, and secure workflow execution across distributed services.

Web Minds

Software Engineer

Pune, India

Feb 2021 - Aug 2023

Built full-stack business platforms for dealer/customer quotation workflows and agricultural e-commerce, improving operational efficiency, user experience, and scalability across production applications.

Project 1: DealStore – Quotation-Driven Marketplace for Local Dealers

Built a quotation-based marketplace platform that helped customers compare offers from local dealers and helped business owners manage customers, dealers, quotations, invoices, reports, and website content from one centralized web platform.

- **Developed full-stack workflows** for customer, dealer, and admin modules including signup, login, requirement submission, quotation handling, invoice management, reports, and notifications.
- **Built and enhanced backend APIs and frontend flows** to support dealer onboarding, customer requirement management, quotation tracking, and admin operations across the platform.
- **Improved platform scalability and maintainability** by supporting the transition of selected tightly coupled modules from monolithic architecture to smaller service-oriented components.
- Updated REST-based workflows, validated legacy data flows, and supported phased migration of business-critical modules.
- **Built responsive UI workflows** and improved mobile-first behavior for customer, dealer, and admin journeys across desktop and mobile devices.
- **Implemented frontend performance improvements** such as code splitting, lazy loading, and optimized asset handling to improve load time and usability.

Project 2: E-Agro – Agricultural E-Commerce Marketplace

Built an online agricultural marketplace that helped sellers list products, manage inventory, process orders, and accept payments while helping customers browse, purchase, track deliveries, and provide feedback through one structured platform.

- **Built backend and frontend features** for product management, order processing, payment-related flows, shipping support, and inventory visibility.
- **Implemented database-backed workflows** across users, products, categories, orders, payments, offers, shipping, and feedback modules.
- **Supported communication and notification flows** for order updates, user credentials, and operational alerts.
- Participated in unit testing, integration testing, workflow validation, and debugging across core e-commerce modules.

Tata Consultancy Services System Engineer

**Pune, India
Jan 2020 - Jan 2021**

Worked on an internal corporate payments and transaction workflow platform used by business and operations teams to process, validate, track, and audit payment-related requests in a controlled enterprise environment.

Corporate Payments and Transaction Workflow Platform

Built and supported backend application workflows for internal corporate payment processing, transaction validation, status tracking, and enterprise service integrations.

- **Worked on Java-based backend modules** supporting transaction intake, payment validation, status handling, and service-integration workflows.
- **Fixed production issues related to transaction** status mismatches, validation failures, workflow exceptions, and incorrect database updates.
- **Supported backend API integrations** for fund-transfer workflows, balance validation, real-time transaction status updates, and downstream enterprise service communication.
- **Used Oracle SQL** to investigate workflow issues, validate record updates, troubleshoot reporting mismatches, and verify transaction data consistency.
- **Improved release confidence** by implementing unit tests with JUnit and Mockito and by supporting backend testing, defect reproduction, and issue verification.
- Documented integration behavior, API expectations, and testing steps for technical handoff and easier troubleshooting.
- Worked in a regulated financial environment where reliability, accuracy, confidentiality, and traceability were critical.

PROJECTS

Dental Appointment Management System – Natural Language Scheduling Workflow

Tech Stack: Python, LangGraph, Grok/xAI, CSV-backed tools

- Built a LangGraph-based multi-agent appointment workflow supporting slot lookup, booking, cancellation, and rescheduling through natural language interaction.
- Designed specialized reader and writer tool paths over a CSV-backed data layer, enabling structured routing between information, booking, and rescheduling flows.

Hierarchical Multi-Agent Blog Writer – Research-to-Writing Agent Workflow

Tech Stack: Python, LangGraph, Tavily, OpenRouter

- Built a hierarchical multi-agent system with supervisor, research, and writing teams to generate structured blog content from a single natural language request.
- Integrated web research, outline generation, and file-based content creation through stateful workflow routing and multi-step agent collaboration.

Multi-Agent Job Assistant – Recruiter-Style JD Analysis Workflow

Tech Stack: Python, LangGraph, OpenRouter, Streamlit, DuckDuckGo Search

- Built a multi-agent workflow that analyzes job descriptions, performs company and role research, and generates structured interview preparation insights through specialized agent routing.
- Implemented supervisor-based orchestration, tool calling, and structured outputs to produce recruiter-style case files with role expectations, key gaps, and prep guidance.

Agentic AI End-to-End QA Workflow – Multi-Agent Playwright Testing Automation

Tech Stack: Python, LangGraph, Grok/xAI, CSV-backed tools

- Built an end-to-end QA workflow that transformed user stories into test plans, exploratory findings, automated Playwright scripts, healed execution, and final QA reports using natural language instructions.
- Used specialized planner, generator, and healer agents with MCP-connected browser and GitHub tools to automate testing workflows, generate artifacts, and prepare commit-ready outputs.

Flight Delay Insurance System – Smart Contract-Based Delay Compensation Platform

Tech Stack: Playwright, TypeScript, LangGraph-style agent workflow, MCP, GitHub MCP, Playwright MC

- Architected an automated claims platform that detects flight delays via real-time data feeds.
- Designed specialized reader and writer tool paths over a CSV-backed data layer, enabling structured routing between information, booking, and rescheduling flows.

Query Performance Analysis – Relational Schema Optimization Study

Tech Stack: Python, SQLite, Pandas, Matplotlib, SQL

- Built a query performance analysis workflow to compare execution time across 1MB, 10MB, and 100MB datasets, evaluating the impact of indexing, batch loading, and schema normalization.
- Designed a normalized 6-table relational schema and benchmarked SQL query behavior across multiple workloads, documenting scalability trends and optimization findings.

Regional Language Identification via Audio Accent Analysis

Tech Stack: Python, PyTorch, Hugging Face, Wav2Vec2, Librosa, TorchAudio

- Built an audio-based dialect classification pipeline using Wav2Vec2, MFCC, Mel Spectrogram, and Chroma features to identify English regional accents from speech samples.
- Fine-tuned transformer-based models and achieved strong classification performance across dialect groups, improving low-resource and cross-domain generalization.

Glean AI – Power BI Custom Connector Proof of Concept

Tech Stack: Python, Flask, MSAL, Power BI REST API, Glean Indexing API, Render

- Built a Python-based custom connector to extract Power BI report metadata, transform it into Glean-compatible documents, and index it into enterprise search.
- Integrated Azure authentication, validated the indexing flow end-to-end, and proved that Power BI reports could be discovered and opened directly from Glean search results.

SKILLS

- **Programming Languages:** Python, Java, JavaScript, TypeScript, SQL, HTML5, CSS3
- **Frontend:** React, Next.js, AngularJS, Vue.js, Redux, Tailwind CSS, Material UI, Responsive UI, Progressive Web Applications
- **Backend:** Node.js, Express.js, Spring Boot, Spring MVC, Hibernate, FastAPI, Django, Flask, REST APIs, SOAP Services, Microservices
- **Databases:** PostgreSQL, MySQL, Oracle, SQL Server, MongoDB, Redis, DynamoDB, SQLite
- **Cloud & DevOps:** AWS (EC2, S3, RDS, Lambda), Docker, Kubernetes, Git, Jenkins, GitHub Actions, CI/CD
- **Testing & Tools:** JUnit, Mockito, Jest, Postman, REST Assured, Cucumber, Debugging, Root Cause Analysis
- **AI / Agentic AI:** LangChain, LangGraph, MCP, RAG, FAISS, Structured Outputs, Guardrails, Evals, Tool Calling, Prompt Engineering
- **AI / IML Libraries:** Pandas, NumPy, PyTorch, Hugging Face Transformers, Librosa, TorchAudio, Pydantic
- **Messaging & Auth:** Apache Kafka, RabbitMQ, IBM MQ, Amazon SQS, OAuth2, JWT

EDUCATION

University of Massachusetts Dartmouth

Master of Science in Computer Science

Dartmouth, MA
Sep 2023 - Aug 2025

Shree Rayeshwar Institute of Engineering & IT

Bachelor's in Computer Science

Goa, India
Aug 2016 - Aug 2020