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Core Skills & Tech Stack

- **Programming Languages:** TypeScript, JavaScript, Python, Java, C, C++, Go, SQL
- **Backend & APIs:** NestJS, FastAPI, REST APIs, GraphQL, Protocol Buffers (Protobuf)
- **AI & LLM Ecosystem:** OpenAI, Anthropic, Azure OpenAI, Google Gemini/Vertex AI, DeepSeek, Amazon Bedrock, RAG, AST Parsing, Model Context Protocol (MCP), Prompt Engineering
- **Frontend & Extensions:** VS Code Extension API, HTML, CSS
- **Testing & Automation:** Playwright, Cucumber (BDD), Postman, JUnit, Selenium, Jest
- **Cloud & DevOps:** AWS (Bedrock, S3, IAM), Docker, Jenkins, GitHub Actions, Terraform, Git
- **Databases:** MySQL, Amazon Aurora
- **Workflow Tools:** Jira, Confluence, Slack, Prettier, ESLint

Chaitra B V

Senior Member of Technical Staff

PROFESSIONAL SUMMARY

Software engineer with nearly 4 years of experience building AI-powered developer tools, automated testing frameworks, and scalable backend systems. Owned end-to-end development of a VS Code extension and multi-provider LLM integrations, reducing token consumption by up to 60% in automated test-generation workflows. Experienced in AST-based code analysis, AI workflow orchestration, and CI/CD integration. Based in Germany, with a strong focus on backend engineering and applied AI.

WORK EXPERIENCE

Zettabytes Software Private Limited · Remote - India

Senior Member of Technical Staff

Jan 2026 - Jul 2026

- **LLM Token Optimization:** Reduced LLM token consumption by 30–60% across automated test-generation workflows using AST-based code extraction, RAG, multi-stage context reduction, token-aware context budgeting, diff-based context selection, early stopping, semantic caching, and memory hashing.
- **VS Code Extension Ownership:** Solely owned and built the RoostGPT VS Code extension from scratch using TypeScript, JavaScript, and the VS Code Extension API, integrating AI-powered generation across 5 testing workflows: Unit, API, Playwright UI, functional, and integration tests. Delivered 14+ releases through the Visual Studio Marketplace, with compatibility validation across Windows, macOS, and Linux.
- **AST Code Extraction:** Developed AST-based code extraction for Java, Python, C, C++, and Go, parsing source code into structured JSON representations to provide relevant code context for AI-powered analysis and automated test generation across multiple programming languages.
- **Multi-Provider AI & BYOM:** Engineered multi-provider LLM integrations for OpenAI, Anthropic, Azure OpenAI, Google Gemini/Vertex AI, and DeepSeek, implementing model-specific prompt engineering, temperature tuning, and provider-specific constraint handling to optimize code analysis and test-generation quality. Extended support through a Bring Your Own Model (BYOM) capability.
- **MCP Server & UI Automation:** Developed a Python-based MCP server integrating Playwright and AI agents to automate UI testing, inspecting 10 URLs per minute and generating at least 10 test cases per URL. Automated test execution, measured coverage, and generated HTML and JSON reports with pass/fail results and failure details.
- **CI/CD Integration:** Integrated generated Playwright tests into Jenkins and GitHub Actions CI/CD pipelines for headless execution, using JUnit reports to validate tests during builds and pull requests.

Member of Technical Staff

May 2023 - Dec 2025

- **Backend REST & AI Services:** Developed REST APIs for core application services using NestJS and TypeScript. Built dedicated APIs using Python and FastAPI for code analysis and AI processing, leveraging Python libraries for AST-based extraction across Java, Python, C, C++, and Go to prepare structured code context for automated test generation.
- **AWS Bedrock Integration:** Integrated Amazon Bedrock Knowledge Bases with Jira to enrich functional test generation with organization-specific documentation and business context, implementing AWS SDK integration and configuring S3 storage, IAM permissions, and supporting AWS resources.

Languages

- English: C2
- German: A1 pursuing
- Kannada: Native
- Hindi: Conversational proficiency

Interests

- Exploring AI tools and technologies through hands-on experimentation and building fun side projects, including GetRejected, Ghostlight, a 2048 game, and AI-generated music, among others.
- Music, Travel, Fitness, and Photography

- **API Testing & Postman Validation:** Performed API testing using Postman, validating REST endpoints and GraphQL queries to verify response data, request handling, and API functionality.
- **API Test Generation:** Developed AI-powered API test generation from 4 API specification formats (Swagger/OpenAPI, Postman Collections, RAML, and Protocol Buffers), producing automated test suites across 6 frameworks with authentication scaffolding, valid/boundary/invalid test data generation, schema validation, negative testing, and load-testing support.
- **Unit Test Generation & Self-Repair:** Built AI-powered unit test generation across 7 programming languages and 15+ testing frameworks using AST parsing, call graph analysis, and dependency mapping. Automated test execution, failure diagnosis, self-repair, mock generation, edge-case testing, and code coverage reporting targeting 95%+ coverage with support for 10 AI providers.
- **BDD Test Generation:** Developed AI-powered BDD test generation from 6 requirement sources (including Jira tickets, documents, knowledge bases, and source code), converting requirements into Gherkin scenarios and executable test suites with Cucumber step definition generation, Scenario Outlines, requirement traceability, and non-functional test generation supporting 10 AI providers.
- **Playwright UI Automation:** Developed AI-powered UI test automation using Playwright and multi-agent AI workflows, enabling automated application exploration, workflow discovery, Page Object Model generation, self-healing tests, edge-case discovery, authentication handling, parallel execution, and automated reporting supporting 21+ languages and 4 AI providers.
- **CI/CD Loops & Self-Correction:** Integrated tests into Jenkins and GitHub Actions CI/CD pipelines, configuring pull-request checks and building a self-correction feedback loop that fed runtime errors back to the LLM to refine generated tests using asynchronous execution and workflow state management.
- **Container Security & Database Management:** Managed security checks across 60+ internal Docker images, reviewing vulnerability scan results, identifying outdated packages, and coordinating rebuilds. Worked across 300+ MySQL tables supporting user management and application workflows, writing SQL queries with joins, transactions, constraints, modifying schemas, and optimizing queries using indexes for MySQL/Amazon Aurora.

Software Trainee

Sept 2022 - Apr 2023

- **CLI Development:** Developed a command-line interface (CLI) for Roost enabling users to access product functionality directly from the terminal, implementing command handling, argument parsing, input validation, and error handling.
- **Infrastructure Automation:** Automated AWS infrastructure provisioning and cleanup using Terraform, managing resource dependencies, troubleshooting deployment failures, and removing test resources to maintain reliable test environments and reduce cloud costs.
- **OAuth Authentication:** Integrated OAuth-based login with Google, GitHub, Microsoft, LinkedIn, and Okta, connecting identity providers with Roost's authentication workflows and debugging login issues across services.
- **Quality & Engineering Practices:** Improved logging and debugging by working with verbose logs, tracing runtime failures, and investigating errors. Resolved console errors and linting issues using ESLint and Prettier, refactored code to reduce duplication, maintained technical documentation in Confluence, tracked tasks in Jira, and coordinated via Slack while learning and applying new technologies in a learn-in-production environment.

EDUCATION

R. V. College of Engineering (*NAAC A+ accredited* college) - **Bengaluru, India**

Master of Computer Applications (MCA) | Aug 2019 – Aug 2022

- CGPA: 8.64/10