

Prachi Panditrao

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

Professional Summary

Senior Full Stack Engineer with 8+ years of enterprise experience specializing in high-concurrency FinTech infrastructure, reactive microservices, and agentic AI systems. Active open-source contributor to core **Spring AI** (spring-projects). Proven track record of architecting production-grade Model Context Protocol (MCP) servers, automated code verification engines, and containerized distributed architectures. Comfortable overlapping with US EST/PST or European CET working hours. Seeking to leverage my engineering expertise to build high-scale, resilient distributed systems as a Senior Software Engineer.

Technical Skills

- **Languages:** Java (17+), TypeScript, JavaScript, SQL, Python
- **Backend & Orchestration:** Spring Boot, Spring AI, Spring WebFlux, REST APIs, Microservices, Apache Kafka
- **AI Ecosystem & Automation:** Model Context Protocol (MCP), System Prompt Architecture, Guardrails & Payload Verification, Gen AI (LLMs), RAG
- **Frontend Architecture:** Angular, React.js, Next.js, HTML5, CSS3
- **Data Infrastructure:** PostgreSQL, Oracle, Snowflake, MySQL
- **DevOps & Cloud:** Kubernetes, Docker, Azure Cloud, CI/CD Pipelines
- **Tools & Platforms:** Git, JIRA, Confluence, Splunk

Open-Source Contributions

- **Core Contributor | spring-projects/spring-ai**
 - Authored upstream framework fixes (#6540) to isolate and resolve a critical runtime payload nesting defect blocking strict mode tool-calling validation for OpenAI and Azure providers.
- **Author & Maintainer | GuardRail**
 - Engineered an automated validation and structural rules engine in Java to parse, inspect, and enforce architectural compliance on AI-generated system payloads before deployment execution.

Professional Experience

Mastercard

July 2022 – Present | Bangalore, IN

Senior Software Engineer *(June 2025 – Present)*

- Designed custom Spring Boot Model Context Protocol (MCP) servers leveraging Gen AI for automated code reviews, increasing isolated environment review cycle efficiency by 40%.
- Designed and developed a Next.js-based white-labeled UI for enterprise subscription management, enhancing layout responsiveness and system scalability.
- Automated Merchant Guide Maintenance workflows using modular Python components, driving a 90% manual effort reduction.
- Implemented automated Merchant Identification pipelines using Generative AI models, significantly improving classification accuracy and turnaround times.
- Conducted corporate GitHub Copilot enablement workshops for 1,000+ technical personnel, accelerating AI-assisted development loops across global teams.

Software Development Engineer II *(July 2022 – May 2025)*

- Re-engineered legacy configuration script workflows into decoupled RESTful APIs, cutting merchant onboarding velocity to under 1 minute and boosting cross-team delivery speed by 75%.
- Automated enterprise data privacy request workflows using modern microservices, scale-handling over 500K+ monthly requests without manual intervention.
- Contributed to system architectural design and low-latency performance optimization, ensuring high service availability and strict data security compliance.

HSBC Technology India

July 2018 – June 2022 | Pune, IN

Senior Software Engineer *(June 2021 – June 2022)*

- Migrated legacy account onboarding platforms to cloud-native, high-concurrency microservices architectures utilizing Spring Boot on Kubernetes clusters, securing an 80% reduction in API response times.
- Recognized for outstanding execution in engineering best practices, zero-regression refactoring, and fluid cross-border team coordination.

Software Engineer *(July 2018 – May 2021)*

- Developed robust Angular single-page applications for Global Internet Banking, ensuring complete GDPR compliance and zero-downtime production deployments.
- Deconstructed coupled Spring-JSP legacy application layouts into modern modular API frameworks, realizing an 87.5% reduction in local integration testing cycles.

Technical Publications

- Towards AI | Technical Author: Authored **Fixing 'Tool Amnesia' in MCP Ecosystems**, an architectural analysis exploring context window mitigation strategies, token bloat reductions, and agentic workflow reliability optimizations using specialized Java Gateway routers.

Education

Bachelor of Engineering in Computer Science

University of Pune | Graduation: June 2018

- Academic Standing: First Class with Distinction (Aggregate: 75.35%)