

# Gokula Krishnan Rajendran

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📍 Raleigh, NC

Experienced and proven Principal Software Engineer with 12 years in IT, specializing in DevOps, AI-driven testing strategies, cloud infrastructure automation, and end-to-end CI/CT pipeline integration to enable scalable, intelligent, and secure software delivery. Skilled in driving digital transformation across fintech, healthcare, insurance and insurance domains by building scalable test automation frameworks and leading innovations in emerging technologies, including AI-powered solutions. Experience in designing robust CI/CT workflows and dynamic environment provisioning using Jenkins, Azure DevOps, GitHub, and Infrastructure as Code (IaC) tools such as ARM templates and Ansible. Passionate about continuous learning and fostering collaboration between development and operations through shift-left testing and DevOps best practices.

## AREAS OF EXPERTISE

- Program Management
- Automation Framework Design
- Azure DevOps and Portal Admin
- Playwright, Selenium, Postman
- Evaluation & Tool Selection
- Configuration Management & Infrastructure as Code (IaC)
- Java, TypeScript, SQL
- Gen AI - Playwright MCP, GitHub Copilot and Self Hosted LLMs
- System Integration & Impact Analysis
- Container Orchestration
- Git, Jenkins, Maven
- Code Quality & Supervision

## WORK EXPERIENCE

### Senior Software Quality Engineer *Client - First Horizon Bank*

08/2025 - Present

- Led enterprise-wide Quality Engineering transformation by modernizing legacy automation into a scalable, AI-augmented Playwright architecture spanning UI, API, integration, performance, and end-to-end testing, reducing automation development effort by ~60%.
- Established organization-wide quality standards, governance frameworks, and responsible AI guardrails, serving as the principal advisor on test architecture and driving cross-functional alignment across Product, Engineering, DevOps, and Security.
- Led enterprise-level quality gap analysis initiatives, implementing risk-prioritized testing models that reduced production defect escape rates below 2% and increased critical path automation coverage beyond 80%.
- Designed and implemented performance and reliability engineering frameworks, including automated load modeling and real-world traffic simulations, proactively identifying system bottlenecks and improving platform resilience.
- Drove cultural transformation toward "quality as shared ownership" by mentoring senior engineers, embedding testability patterns into application design, and aligning quality metrics with executive-level business KPIs.

### Software Engineer *Client - Fidelity Investments*

08/2023 - 08/2025

- Transformed traditional automation into a DevOps-aligned testing strategy by modernizing frameworks using Playwright and integrating automated validation into CI/CT pipelines, enabling faster and more reliable deployments.
- Designed and implemented intelligent test generation workflows using prompt engineering and LLMs via Playwright MCP, enabling dynamic test case creation and self-healing capabilities.
- Led QA end to end testing effort for high-impact 401(k) withdrawal workflows, ensuring IRS compliance, accurate tax withholdings, and reliable emergency fund access for end users.
- Actively contributed to the QA Center of Excellence, establishing best practices, 12+ reusable components, and standards adopted by 5+ squads—improving automation consistency and reducing script maintenance by 30%.
- Provisioned dynamic test environments using ARM templates and Azure pipelines to support consistent test execution across development, staging, and pre-production stages.
- Implemented pipeline-level quality gates using code quality and test stability metrics to ensure releases met reliability thresholds before production promotion

### Principal Software Engineer *Client - ICON PLC*

06/2020 - 08/2023

- Led QA for 4 global clinical trial systems used by 10,000+ users, with 24/7 uptime and regulatory compliance requirements.
- Designed and built a modular, reusable automation framework with Selenium and TestNG, tightly integrated into CI pipelines to support shift-left testing and reduce regression cycle times considerably.
- Collaborated and automated deployments to Azure App Services, AKS, and Virtual Machines using Azure DevOps service connections, ARM templates, and SSH scripts with built-in rollback mechanisms to ensure zero-downtime releases.

- Integrated automated test suites into CI/CD pipelines using Jenkins and Azure DevOps, ensuring continuous quality validation with every code commit.
- Enhanced pipeline robustness by integrating linting tools and code quality checks with SonarQube.
- Experience in log and metrics monitoring using Datadog, Grafana, Splunk and customer Report Portal instances.

### **Automation Architect** *Client – MetLife*

01/2016 – 05/2020

- Defined automation strategies across multiple insurance business lines—covering web, mobile, API, and DB testing.
- Delivered 12+ successful PoCs and architected the mSTAX framework using Java, Selenium, and Appium.
- Led and mentored global QA teams, aligning test solutions with business goals and streamlining delivery processes.
- Collaborated with cross-functional teams including developers, DevOps, and product owners to align automation strategy with overall software delivery goals.

### **System Engineer**

03/2013 – 01/2016

- Validated insurance systems for individual compensation workflows, ensuring compliance with business rules and policy logic.
- Ensured accuracy in policy updates and monetary computations through thorough regression and validation testing.
- Maintained traceability between requirements, test cases, and defects.
- Conducted root cause analysis (RCA) on critical defects and worked with developers to ensure timely resolution.

## Education

2008 – 2012

### **B.Tech – Information Technology**

**Anna University, Chennai**

## Supplementary Experience Summary

- Led technical Proofs of Concept (PoCs) to evaluate new tools and solutions for business-critical problems, influencing strategic decisions and accelerating technology adoption.
- Managed automation project plans from scope to execution, aligning timelines with agile sprint cycles and ensuring on-time delivery across cross-functional teams.
- Identified and mitigated testing risks by implementing proactive issue tracking, cross-team escalations, and contingency plans to reduce production defects.
- Generated interactive QA dashboards and reports using tools like SharePoint, Splunk, and custom reporting pipelines to provide actionable insights for clients and stakeholders.
- Built and maintained robust automation frameworks using Selenium, TestNG, Playwright, and Rest Assured to support cross-platform functional and API testing.
- Automated data extraction and transformation from multiple sources including web applications, Excel spreadsheets, PDFs, and legacy systems by leveraging OCR, and data manipulation techniques to improve accuracy and reduce manual effort.
- Managed assets, credentials, and environment variables securely through vault and orchestrator.
- Collaborated with cross-functional teams to gather requirements, analyze business processes, and translate them into scalable, efficient RPA workflows while providing post-deployment support and continuous improvement.
- Led mobile testing and automation initiatives for all digital applications, utilizing Perfecto and physical devices to ensure compatibility across platforms.
- Managed deployment, release cycles, and user access within HP ALM, including LDAP/Active Directory authentication.
- Experience working with open-source models such as Llama 3, Mistral, and OpenAI for local experimentation
- Experience working with Linux systems and commands
- Integrated GitHub Copilot into CI/CD workflows and test automation pipelines to boost productivity during script creation, code reviews, and quick prototyping of test cases.
- Managed existing configuration management templates in Ansible
- Provisioning and configuration of cloud services, VMs, containers, DBs, Storage and networking components
- Active contributor for the closed source self-hosted apps
- Deployed and maintained self-hosted applications using Docker, with responsibilities across server setup, updates, and environment stability.