

KARTHIK JOHN BABU

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QA Manager and Automation Architect specializing in end-to-end UI & API automation, scalable automation frameworks, and AI/LLM evaluation. Experienced in designing resilient test ecosystems, validating RAG pipelines and generative AI systems, and introducing observability practices to complement automation strategy.

Profile Summary

- **11+ years of experience** in QA leadership and Senior SDET roles, driving quality strategy, automation, and release governance for enterprise, cloud-native, and AI-powered platforms.
- **Led and mentored cross-functional teams of 8 engineers within 50-member engineering organizations**, ensuring alignment across development, DevOps, and QA practices.
- **Architected and scaled automation frameworks across UI, API, data pipelines, and microservices, integrating CI/CD pipelines** for early validation and continuous quality feedback.
- **Introduced observability validation practices for critical workflows**, validating logs, metrics, and alerts to complement automation strategy and improve detection of potential issues.
- **Directed AI/LLM evaluation initiatives, assessing model reliability, hallucination risk, and relevance**, while implementing early validation practices for RAG pipelines and generative AI systems. Incorporated data drift and concept drift awareness to detect deviations in input distributions.
- **Established post-deployment monitoring and observability frameworks** to track model performance, stability, and risk in production environments, ensuring ongoing reliability and operational resilience of AI/LLM systems.
- **Collaborated on DevOps and SRE-aligned initiatives**, including release readiness, incident mitigation, and production reliability improvements, ensuring resilient software delivery.
- **Influenced strategic decisions and quality transformation**, embedding shift-left and shift-right testing practices, improving automation coverage, release confidence, and operational excellence at scale.

Core Competencies

- Quality Strategy & Governance
- Automation Architecture
- Cloud & SaaS Platform Testing
- Observability & Production Validation
- AI / LLM / RAG Quality Engineering
- Agentic AI Development & Validation
- DevOps & SRE Collaboration
- Microservices & API Contract Testing
- Data & ETL Testing
- CI/CD & DevOps Quality Gates
- Team Leadership & Cross-Functional Collaboration
- Release Readiness & Risk Management

Technical Skills

- **Automation Architecture & Test Engineering:** Playwright (Python & TypeScript) | Selenium WebDriver (Python) | Cypress (Mocha, Cucumber) | Robot Framework | PyTest / PyTest-BDD | Automation Framework Design (Layered Architecture, POM, Hybrid UI + API Validation) | Parallel Execution & CI-Integrated Automation | End-to-End, Integration & Regression Strategy
- **AI / LLM Evaluation & RAG Validation:** LLM Evaluation using Python & RAGAS | Retrieval-Augmented Generation (RAG) Testing | Hallucination Detection & Relevance Scoring | Multi-Turn & Prompt Stability Testing | Agentic AI Prototyping (Microsoft AutoGen, LangChain) | Basic AI Observability & Responsible AI Validation
- **DevOps & CI/CD Integration:** Jenkins | Azure DevOps | Dockerized Automation Execution | CI/CD Quality Gates & Parallel Pipelines | Advanced Git Workflows (Branching, Rebasing, Release Tagging)
- **API & Contract Testing:** Consumer-Driven Contract Testing (Pact) | REST API Automation | Postman / Newman | JSON Schema Validation | OAuth 2.0
- **Data & ETL Validation:** ETL Testing & Data Warehouse Validation | SQL & Query Optimization | Data Quality Validation (Completeness, Consistency, Accuracy) | AWS Data Stack: S3, Redshift, QuickSight | Pentaho PDI & Power BI Exposure
- **Performance Testing:** K6 (JavaScript) – API Load, Stress, Spike & Soak Testing | Browser-Level Load Testing (K6 Browser + Playwright) | Web Vitals & Threshold Validation | Grafana Cloud Integration

Additional Contributions (Recent Exposure)

- *Contributed to cloud-native platform and microservices validation, supporting production readiness and reliability checks.*
- *Applied observability practices for critical workflows, validating logs, metrics, and alerts to complement automation strategy.*

Work Experience

Apr 2024 – Jan 2026 | QA Manager | Copperpod AI – SaaS & AI Platform

Senior QA leader accountable for end-to-end quality strategy, release governance, automation architecture, and AI-driven platform reliability for a cloud-native SaaS AI platform. Delivered strategic QA initiatives across UI, API, data, observability, and LLM-powered features.

Key Responsibilities

- Defined and executed enterprise QA strategy aligned with SaaS, cloud-native, and AI/LLM standards, embedding shift-left and shift-right quality practices across SDLC.
- Owned release readiness and go/no-go decisions, validating functional, non-functional, and operational quality.

- Designed Playwright-based automation frameworks integrating UI flows, API validation, and backend database assertions for end-to-end reliability; implemented CI/CD pipeline integration for continuous validation.
- Built RAGAS-integrated LLM evaluation harness using PyTest to assess retrieval relevance, hallucination risk, and multi-turn response consistency.
- Designed API load and stress tests using K6, validating performance thresholds and integrating results with Grafana dashboards to monitor SLA adherence.
- Introduced observability-driven testing validating logs, metrics, and alerts as production contracts; implemented telemetry validation using Prometheus query APIs and Loki log assertions under simulated failure scenarios.
- Implemented consumer-driven contract testing using Pact to prevent microservice breaking changes in CI pipelines.
- Developed agentic AI prototypes for task automation and multi-agent orchestration within QA workflows.
- Collaborated with DevOps and SRE teams to strengthen production monitoring, incident mitigation, and operational resilience.
- Mentored and guided an 8-member QA team while coordinating across 50-member cross-functional engineering teams, influencing technical decisions and ensuring stakeholder alignment.

Key Achievements

- Reduced post-release defect leakage by approximately 25–30% across multiple production cycles.
- Increased automation coverage significantly, reducing regression cycle time by approximately 30–35% and minimizing manual validation effort.
- Reduced mean time to detection (MTTD) by approximately 20–25% through structured observability validation and alert accuracy improvements.
- Strengthened AI system reliability by introducing RAGAS-based evaluation frameworks and automated validation for retrieval quality and response consistency.
- Reduced repetitive QA effort by approximately 8–12 hours per week through automation enhancements and AI-driven task orchestration.

Dec 2022 – Jan 2024 | Senior Software Development Engineer in Test (Senior SDET) | ThoughtFocus

Senior SDET leading automation and quality strategy for a large-scale cloud modernization program with focus on data platforms, ETL pipelines, and reporting systems. Delivered end-to-end QA solutions, driving release confidence, data reliability, and process automation.

Key Responsibilities

- Defined and executed comprehensive test strategy across application, data, and reporting layers for cloud modernization initiatives.
- Designed and implemented automation frameworks from scratch, reducing manual regression effort and improving test coverage and reliability.
- Led ETL testing and automation for large-scale AWS migration, validating data pipelines from S3 → Redshift → QuickSight; ensured data accuracy, completeness, and reporting correctness using SQL and PySpark.
- Integrated automation suites into CI/CD pipelines for early feedback and continuous verification; configured Jenkins/Azure DevOps pipelines with parallel execution, quality gates, and environment-specific validation.
- Implemented consumer-driven contract testing using Pact to validate microservice integrations & prevent API-breaking changes.
- Dockerized automation environments to ensure consistent CI execution across teams.
- Managed Git workflows, including branching strategies, rebasing, and release tagging, for smooth version control & release management.
- Collaborated closely with developers, data engineers, and cloud teams to align QA processes with deployment and production requirements.

Previous Experience

Oct 2021 – Aug 2022 | Senior Test Engineer | HCL Technologies

Key Responsibilities

- Directed test planning and execution across functional, integration, regression, UAT, and cross-browser testing.
- Transformed manual regression suites into scalable Selenium automation frameworks and maintained alignment with evolving user stories.
- Orchestrated QA activities across builds, releases, and environments, ensuring smooth deployments and high-quality releases.

Feb 2015 – Aug 2021 | QA Engineer | Electronics for Imaging (EFI) – Bangalore

Key Responsibilities

- Executed end-to-end QA across enterprise product SDLC, including functional, regression, and automation testing.
- Developed and maintained Selenium-based automation frameworks, improving regression stability and coverage.
- Led production defect triage and resolved OEM escalations, ensuring SLA adherence.
- Generated quality metrics and dashboards for release readiness, contributing to production reliability.

Education

- **B.E. – Electronics & Communication Engineering**
Visvesvaraya Technological University, 2014

Other Links

- **GitHub:** <https://github.com/karthikjohnbabu>
- **Portfolio:** <https://www.karthikbabu.in/>