

UTKARSH SINHA

QA Automation Architect | AI-Driven Quality Engineering Leader

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EXECUTIVE SUMMARY

Results-driven QA Automation Architect and Test Manager with 18+ years leading enterprise testing initiatives across BFSI, Healthcare, E-Commerce, and Supply Chain. Built scalable automation frameworks and CI/CD pipelines that drove 70% automation coverage and 40% faster regression cycles, underpinned by strong program management, release orchestration, and cross-functional stakeholder leadership.

Pioneered AI adoption in QA at Fidelity International, architecting an AI-powered test case generation platform (NLP, PyTorch, GPT-4.1) that cut manual test-design effort by 70%, and extending this into RAG pipelines, MCP-based tool integration, and LangChain/LangGraph multi-agent orchestration. Post Graduate in Artificial Intelligence (University of Texas, Austin), with hands-on expertise in MLOps, neural networks, regression modeling, cloud infrastructure (AWS/Azure), and performance engineering.

PROFESSIONAL EXPERIENCE

Manager - Program Manager (Release & Automation)

Fidelity International

- 04/2020 - Present Gurgaon, India
- Spearheaded AI transformation in QA, driving adoption of AI tools like RAG, AI test generation, and intelligent defect prediction, enhancing organizational processes.
- Developed an AI-powered test case generation solution using NLP and machine learning, reducing manual test-design by 70% and improving test coverage.
- Implemented MLOps practices and enterprise-wide automation governance, ensuring seamless bi-weekly releases and improved AI-powered testing across product lines.
- Orchestrated cross-functional collaboration, managing multiple Agile teams to enhance product development efficiency and implement CI/CD practices.
- Achieved 70% test automation coverage and a 40% reduction in regression cycle time through strategic automation roadmaps and Shift-Left testing integration.
- Established quality gates and KPIs, ensuring 99.5% production stability while delivering executive-level dashboards and metrics reports for stakeholders.
- Mentored 15+ QA engineers, fostering a culture of continuous improvement and leading technical interviews, enhancing team capabilities.

Test Architect

Globant India Ltd

- 09/2018 - 04/2020 Pune, India
- Architected and developed end-to-end test automation frameworks for a Big Data Supply Chain Analytics platform using Azure, NiFi, Hive, and Power BI
- Built a Spring Boot-based automation framework with JUnit for ETL testing, including schema validation, data integrity checks, and Power BI report validation
- Designed and implemented a custom Data Generation tool to create realistic test datasets, supporting functional, performance, and load testing scenarios
- Automated Azure Data Factory (ADF) pipeline testing, ensuring data accuracy and transformation logic validation across multiple data sources
- Achieved 60% reduction in manual testing efforts through intelligent test automation and reusable test components
- Provided technical leadership and code reviews, ensuring adherence to coding standards and best practices

KEY ACHIEVEMENTS

- Reduced regression testing cycle time by 60% through strategic automation and CI/CD integration at Fidelity International
- Implemented QA Agent (LangGraph and Litellm) to write manual and playwright scripts which run on SIT environment
- Achieved 70% automation coverage across enterprise applications, significantly improving release velocity and quality
- Built 3 end-to-end automation frameworks from scratch, supporting Web, API, Database, and ETL testing
- Led successful bi-weekly production releases with 99.5% stability, ensuring zero critical defects in production
- Mentored and upskilled 20+ QA professionals, fostering a high-performance testing culture

EDUCATION

Post Graduate in Artificial Intelligence

University of Texas, Austin

- 08/2025 - 01/2026 GPA 3.76 / 4.00
- AI Recruit. Designed a modular system using NLP parsing, candidate-job matching, fairness constraints, explainable AI
- Implemented ensemble trees and neural network models for classification and clustering
- Built a predictive analytics model using linear regression to forecast user engagement, achieving an R² of 77.9%

Bachelor of Engineering (B.E.) - Electronics & Telecommunication

Pt. Ravishankar Shukla University (CSIT College)

Higher Secondary (10+2) - Biology + Mathematics

CBSE Board

%
70.0 / 100

%
73.2 / 100

PROFESSIONAL EXPERIENCE

Principal QA Engineer

Microsoft India

-  08/2015 - 09/2018
-  Pune, India
- Led a team of 10+ automation engineers for a Healthcare NLP product, delivering high-quality releases for US-based clients
 - Developed and maintained SOAP API automation frameworks using Java, TestNG, and REST Assured, achieving 80% API test coverage
 - Served as Scrum Master for a 15-member feature team, facilitating sprint ceremonies and ensuring timely delivery of sprint goals
 - Implemented real-time Linux environment monitoring and test execution tools, improving test environment stability and reducing downtime by 30%
 - Automated test environment setup and configuration, reducing setup time from 4 hours to 15 minutes
 - Conducted code reviews, approved Git merge requests, and demonstrated new features to onsite stakeholders

Sr. Technical Associate

SEARS Holdings India

-  10/2013 - 08/2015
-  Pune, India
- Managed an 8-member automation team for an Online Media Locker platform, serving as onsite POC for the India team
 - Automated RESTful API testing using Java and REST Assured, improving test coverage and reducing manual testing efforts by 50%
 - Drove continuous improvement initiatives in testing processes, frameworks, and tools, enhancing team productivity
 - Coordinated with US-based clients (Neustar, Sterling) for requirement gathering, test planning, and defect triage

Sr. QA Engineer

Cybage Softwares Pvt. Ltd

-  07/2010 - 10/2013
-  Pune, India
- Performed functional, regression, and automation testing for US Auto Parts e-commerce platform
 - Created and executed automation scripts using Selenium WebDriver, reducing regression testing time by 35%
 - Participated in client reviews, requirement analysis, and QA effort estimation

QC Engineer

Ubisoft Entertainment Pvt. Ltd

-  06/2007 - 07/2010
-  Pune, India
- Conducted functional, compatibility, and localization testing for gaming applications on all game consoles
 - Prepared test cases, test matrices, and defect reports, ensuring high-quality game releases
 - Trained new employees on testing processes and best practices

CORE COMPETENCIES

-  Test Strategy & Planning
-  Automation Framework Design
-  CI/CD & DevOps Integration
-  Fluent in Agentic AI and RAG hands on
-  API & Web Services Testing
-  Team Leadership & Mentoring
-  Stakeholder Management
-  AI & Machine Learning (ML Ops)
-  AI-Powered Test Automation & RAG

SKILLS

Automation Tools & Frameworks

Selenium WebDriver		Appium
Cucumber	TestNG	JUnit
Robot Framework	Gauge	BDD/TDD
Spring Boot	REST Assured	SoapUI
Ready API	UiPath (RPA)	
Test Complete		

Programming & Scripting

Java	Python	Groovy	C#
JavaScript	Shell Scripting	VBA	

Gen AI / ML Tools & Frameworks

LangChain	LangGraph		
OpenAI API (GPT-4,5)		Pinecone	
ChromaDB	FAISS (Vector Databases)		
Prompt Engineering		RAG	PyTorch
MLflow	MCP		

CI/CD & DevOps

Jenkins	Azure DevOps	Git
GitHub Actions		Docker
Terraform		

Cloud & Infrastructure

AWS (EC2, S3, Lambda)		Docker
Kubernetes	Terraform	

Methodologies

Agile	Scrum	Kanban	SAFe
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CERTIFICATIONS

AI for Leaders

Great Learning (Affiliated with University of Texas, Austin McCombs School of Business)

Certified Scrum Master (CSM)

Scrum Alliance (100% Score)

RPA Developer Advanced Certification

UiPath

B1 US Visa (Valid for 4 Years)