



RAKESH ARREPU

Senior QA Automation Engineer | SDET

"Building AI-First QA Frameworks • 70% Faster Testing • Framework Architect Pioneering Where Agentic AI Meets Enterprise QA"

Professional Summary

Impact-oriented Quality Engineering leader with **11+ years** of SDET expertise across **Oracle Cloud, Airlines, HR & Legal, Healthcare, and Logistics** domains. Architect of enterprise-grade automation frameworks using **Selenium, Playwright, and REST Assured**, engineered for complex microservices and distributed systems. Proven record of accelerating regression cycles by **70%** and sustaining **85%+ automation coverage**. Specialist in validating **microservices ecosystems, API orchestration layers**, and multi-system data workflows.

Early pioneer in AI-augmented testing, embedding **AI agents and LLM-powered intelligence** into quality workflows. Active industry voice with **2000+ LinkedIn followers**, publishing on AI agents, generative AI in testing, and modern QA practices. **Builds automation as a platform capability. Engineers quality to scale with the business.**

Professional Highlights

70% Faster
Regression Execution

85% Coverage
Automation Achievement

2X OCI Gen AI
AI & Cloud Expert

Test Strategy
Framework Architect

AI Pioneer
Early Adopter in Testing

Professional Experience

Senior Software QA Engineer

Oracle India Private Limited • Hyderabad, India

Feb 2022 - Present

- Led end-to-end Quality Engineering for **Oracle Hospitality OPERA Reporting & Analytics**, validating enterprise reporting, analytics dashboards, cross-property data aggregation, and KPI accuracy across distributed hospitality platforms
- Architected and implemented scalable automation frameworks for microservices using **Karate DSL**, enabling API validation, contract testing, and integration coverage across complex service ecosystems
- Spearheaded migration from legacy automation frameworks to the modern **OPERA test framework**, leveraging rule-driven automation strategies and Cline Rules capabilities to standardize execution and improve maintainability
- Engineered a unified reporting utility framework functioning as a plug-in layer across Karate, GraphQL, and Selenium-based OPERA automation suites, enabling consolidated execution metrics, coverage insights, and failure analytics
- Designed and built a full-stack **Playwright E2E framework** supporting UI and API validation in BDD format, streamlining cross-layer test orchestration within a single execution model
- Implemented Playwright visual comparison capabilities to establish robust visual regression validation, safeguarding UI consistency across releases and environments
- Owned QA release governance and sign-off for production deployments, enforcing **zero-defect standards** and ensuring reporting data integrity across enterprise releases
- Acted as **Quality Key Holder for an Agentic AI-driven QA framework**, validating autonomous agent accuracy, behavioral consistency, drift detection, and coverage analytics across testing workflows
- Mentored engineers through structured knowledge transfers, architectural reviews, and code quality governance, elevating automation standards and team velocity

Analyst

ValueLabs LLP • Hyderabad, India

Jan 2020 - Feb 2022

- Led Quality Engineering initiatives for **United Airlines**, validating large-scale applications having data flow through multiple systems
- Architected a comprehensive **Hybrid Framework** combining UI + REST API automation framework, scaling automation coverage to **85%** and eliminating **30+ hours** of manual effort per cycle through optimized test orchestration
- Delivered high-impact Proof of Concept initiatives with an **80% client approval rate**, influencing implementation decisions and accelerating automation adoption
- Owned large-scale test execution governance and quality reporting, ensuring release stability and operational confidence across global deployments
- Mentored engineers through **QA-to-QE transition programs**; delivered intensive training in Java, Selenium, and BDD to elevate automation maturity across product teams

Senior Quality Automation Engineering | I-9 & E-Verify Platforms

Sails Software Solutions • Hyderabad, India

Jul 2017 - Jan 2020

- Served as the **sole QA owner** in an Agile delivery model, driving end-to-end quality strategy, test design, automation development, and defect lifecycle management for I-9 and E-Verify platforms
- Owned complete **I-9 platform** responsibility during the foundational phase, ensuring comprehensive validation of identity verification workflows, employment authorization processes, and compliance adherence for U.S. immigration systems
- Architected and implemented BDD automation using **SpecFlow (Gherkin + C#)**, enabling executable specifications, traceability between business requirements and test scenarios, and collaborative validation with stakeholders

CONTACT

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<https://github.com/rakesh-arrepu>

TOP SKILLS

AUTOMATION

Selenium Playwright Karate DSL TestNG
Cucumber SpecFlow

API TESTING

REST Assured REST Sharp Postman Karate
SoapUI PACT Contract

LANGUAGES

Java Python C# JavaScript TypeScript

AI & EMERGING

Generative AI Agentic AI LLM RAG AI Agents

MCP

DEVOPS & CLOUD

Jenkins Docker OCI AWS

SCM

Github GitLab BitBucket Azure

TOOLS

Jira HP ALM Qmetry Zephyr Bug DB

CERTIFICATIONS

OCI 2025 Generative AI Professional

Oracle

Issued: January 2025

OCI 2025 AI Foundations

Oracle

Issued: January 2025

Agentic AI for Testers

The Test Tribe

Issued: December 2024

Design Patterns in Test Automation

The Test Tribe

Issued: November 2024

EDUCATION

B.Tech (Electronics Communication)

2010 - 2014

Agentic AI Program

John Hopkins University (2025-Present)

LANGUAGES

English

Professional Working

Telugu

Native

Hindi

Professional Working

HOBBIES

Travel Music Foodie Technology Gadgets
Photography

PUBLICATIONS

Playwright CLI vs MCP

130,836 views

Selenium x Playwright x Cypress

2,705 views

Playwright CLI Cheatsheet

836 views

AWARDS

"STAR of the Month"

2021

Value Labs

"SMART" Award

2017

Syntel

Team "Adaptive"

2016

Syntel

AFFILIATIONS

Ministry of Testing

Engaged Community Member

2023 - Present

LinkedIn QA & AI

Content Creator & Thought Leader

2021 - Present

GitHub Open Source

Contributor & Maintainer

2020 - Present

QA Conferences

Active Participant

2023 - Present

- Validated REST API services and SSO integrations using Postman with automated request triggers, response schema validation, and OAuth 2.0 authentication flows for E-Verify services
- Integrated test automation into Jenkins CI/CD pipelines with automated test execution triggers, Extent Reports for real-time test visibility, and email notifications for build status and quality metrics
- Delivered comprehensive test plans, test scenarios, execution governance, and defect tracking, ensuring 100% requirement traceability and complete platform validation before production releases

Software Engineer

Syntel India Private Limited

Pune, India

Feb 2015 - Jun 2017

- Analyzed requirements and designed comprehensive test strategies, executing functional, regression, UAT, and smoke testing within Agile delivery cycles
- Tested FedEx ePAT (Enterprise Pricing Analyst Toolkit) for PnL statements, acting as a Pricing Analyst to validate complex rate calculations, financial logic, and data accuracy
- Developed automation scripts with Selenium-based Internal tool and QTP Tool

Key Projects & Achievements

ETL Sentinel — AI-Powered Autonomous Data Migration Validation at Scale



Built a fully autonomous, AI-powered framework that validates data migration integrity across Oracle Database migrations using intelligent fuzzy matching, OCI GenAI-driven schema discovery, and adaptive statistical validation. Eliminated manual triage through automated issue classification and executive-level reporting.

Impact: 900+ tables validated • 100% schema discovery accuracy • 3-tier adaptive validation • 80% triage time reduction • Executive reporting dashboard

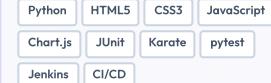
Schema Intelligence Engine — Agentic AI-Powered GraphQL Payload Generation with Self-Learning Fusion



Engineered an agentic AI engine that intelligently fuses Apollo GraphQL schemas with database metadata using OCI GenAI. Automates production-ready GraphQL payload generation by resolving field name mappings across schema sources through hybrid matching algorithms, confidence-scored categorization, and a self-correcting learning system — processing 115K+ fields at scale.

Impact: 98% reduction in LLM API calls • 115K+ fields processed • Self-improving accuracy • 100% payload validation • Fuse once, generate unlimited payloads

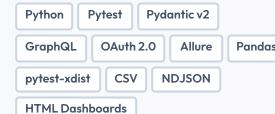
OHRA Reporter — Zero-Infrastructure Test Intelligence Dashboard



Built a self-contained reporting platform that transforms raw test execution data from any major framework into executive-ready interactive dashboards — featuring cross-environment comparison, regression detection, SLA health scoring, and statistical significance testing. Deploys as a single HTML file with zero infrastructure dependencies, integrating directly into CI/CD pipelines.

Impact: Test triage reduced from hours to seconds • 4-environment comparison • 100% framework-agnostic • Zero-dependency deployment • Data-driven go/no-go decisions

GraphQL API Regression Framework — 2,200+ Auto-Generated Test Cases Across 534 Views, Zero Manual Authoring



Architected a schema-driven, data-driven test automation platform that auto-generates 2,200+ parametrized test cases per run from JSON schema snapshots — covering 534 GraphQL views across 75 subject areas with 46,600+ column mappings. Features a 3-phase pipeline (Ingestion → Generation → Execution), parallel execution, and pluggable modular architecture across 154 source modules (~43K LOC). Onboarding a new API version requires just 4 JSON files — zero test rewrites.

Impact: 2,200+ test cases auto-generated • 534 views × 46,600+ column mappings • 6 schema versions covered • Regression reduced to single pipeline run • 100% schema-driven onboarding • Cross-version drift detection

Agentic AI QA Framework — Evaluating & Factual Grounding for AI Agents



Engineered an automated evaluation platform that validates AI agent responses against live backend API data using a three-tier assessment engine — LLM-based comparison, deterministic guards, and semantic fallback. Systematically catches hallucinations, data mismatches, and behavioral regressions by independently fetching ground-truth from OPERA Cloud APIs and scoring accuracy, toxicity, bias, and tone across hundreds of prompt variations. Template-driven authoring enables non-engineers to add test scenarios via JSON.

Impact: 100% automated hallucination detection • Three-tier evaluation with zero single points of failure • Precision, Recall, F1 metrics powering go/no-go decisions • QA cycle reduced from hours to single-command runs • TP/FP/FN/TN tracking per prompt • Behavioral safety coverage

Playwright Full-Stack Regression Framework — Unified UI + API Validation for Oracle RnA Portals



Architected an end-to-end TypeScript-based Playwright framework for Oracle RnA Application Portal that orchestrates a complete cross-system validation workflow — generates test data via Admin Portal APIs, executes UI regression suites on the RnA Portal, and validates downstream data integrity against Platform System APIs. Includes pixel-level visual regression testing, delivering full-stack traceability across three interconnected systems in a single automated pipeline run.

Impact: 44+ hours saved per release cycle (26hrs manual regression + 6hrs data generation + 12hrs integration testing) • 3-system orchestration automated — Admin Portal API → RnA UI Execution → Platform System API verification • Pixel-level visual regression catching UI/UX drift across every RnA Portal release • 100% full-stack traceability from data creation through cross-system verification in one pipeline