

KARTHICK S

Automation Test Engineer | SDET

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PROFESSIONAL SUMMARY

Automation Test Engineer / SDET with 2 years of experience building and scaling Test Automation frameworks for retail POS applications. Proficient in Selenium WebDriver (Java) with experience in JavaScript framework development assisted by GitHub Copilot. Primary QA owner for Tax and Promotions modules, delivering end-to-end DB-to-UI validation across complex business rules.

TECHNICAL SKILLS

Automation: Selenium WebDriver · Playwright (JavaScript) · UI Automation · POM · Data-Driven & Hybrid Frameworks · TestNG · Maven · Regression Testing

Languages: Java · JavaScript · SQL

Databases: PostgreSQL · MySQL

CI/CD & Tools: Jenkins · GitHub · GitLab · GitHub Actions

Defect Mgmt: JIRA · TCS Mastercraft DevPlus (JILE)

AI & Dev Tools: GitHub Copilot · Prompt Engineering · Claude

Methodologies: Agile (Scrum) · SDLC · STLC

WORK EXPERIENCE

Tata Consultancy Services (TCS), Automation Test Engineer

05/2024 – Present

- Designed, developed, and maintained 600+ automated UI test scripts using Selenium WebDriver (Java) for enterprise retail POS applications, building and owning the Test Automation framework using Data-Driven, POM, and Hybrid design patterns.
- Led the Playwright (JavaScript) migration, designing the POM architecture from scratch using GitHub Copilot-assisted development to ensure framework consistency across stacks.
- Owned the Tax and Promotions modules end-to-end as primary automation point of contact, having automated 90% of complex tax calculation logic and standardized validation across medium to high complexity business rules.
- Validated complex business logic through full DB-to-UI flows including billing, pricing, transaction processing, and promotional logic (buy-X-get-Y); performed API testing across 4 endpoints covering 21 response tags to ensure accurate defect logging.
- Identified a Sev-1 business logic defect in a fully implemented feature that directly impacted store revenue; escalated findings that led to a full requirements re-evaluation and a new role-based access control model before release.
- Identified a low-probability, high-impact architectural defect in the tax module: the implementation assumed uniform merchandise-to-jurisdiction mapping, which breaks in multi-item retail environments.
- Presented live automation demos to UK and US stakeholders, demonstrating parallel execution flows and DB validation strategy.
- Identified, logged, and tracked 120+ defects including 70+ critical issues, managing the full defect lifecycle and reducing test failure rate by 30%.
- Conducted code reviews for junior engineers, ensuring reusability and adherence to QE standards.
- Contributed to sprint planning, defect triage, and retrospectives across 20+ Agile sprints.

PROJECT DETAILS

Retail POS Web Application (TCS OmniStore™)

- Enterprise retail POS solution supporting multi-currency transactions, multiple delivery channels, and complex business logic across distributed store environments.
- Owned end-to-end automation for Tax and Promotions modules. Tax module fully self-built with dynamic configuration support; Promotions module maintained and extended from legacy codebase.
- Tax validation framework handles configurable per-client rounding rules and region-specific logic, built to scale across multiple client deployments without script changes.
- Application spans OmniChannel retail operations including billing, pricing, cash management, and cross-module transaction flows across store and back-office components.

Selenium Java Automation Framework (Scalable Test Architecture) | [Github](#)

- Architected a modular Selenium WebDriver framework (Java) using POM and data-driven design with clear separation across test, page, element, and utility layers.
- Designed a dedicated Elements layer for locator management, improving maintainability and reuse; built reusable utilities for assertions, logging hierarchy, and configuration handling.
- Resolved 8 structural bugs, restructured to Maven convention, and published full documentation covering architecture, setup, and contribution guidelines.
- Implemented ThreadLocal WebDriver for thread-safe parallel execution with dual TestNG execution modes (method-level and class-level). Built on Java 17, Selenium 4.21.0, and TestNG 7.10.2.

- Built centralized ActionEngine and custom AssertEngine to standardize UI interactions and assertion logic; integrated Extent Reports 5.1.1 with automatic screenshot capture on failure.
- Configured fully config-driven execution via external properties files (execution.properties, testdata.properties); wired Maven Surefire Plugin for mvn clean test execution.
- Built a custom SKILL.md context file defining strict framework rules (locator-only Elements classes, constructor-injected WebDriver, mandatory ConfigManager usage, and DB-fetch-to-UI assertion patterns) used as a living code review reference across the framework.

Playwright AI Test Agent (AI-Powered Framework) | [Github](#)

- Built a Node.js agent that generates Playwright (JavaScript) test code from plain-English prompts using the Claude API, targeting Hyva as the reference application.
- Enforces a strict 4-layer architecture (Elements, BasePage, Page Objects, Tests); generated code follows the same patterns as hand-written code.
- CDP Scout uses a dual-pass scan (accessibility tree + DOM overlay via Chrome DevTools Protocol) to reduce raw page HTML from 50,000+ tokens to under 15,000 before sending to Claude (up to 95% reduction on real-world pages).
- Built a 7-gate Orchestrator that validates every prompt before the Claude API is called, preventing redundant or invalid generations.
- Implemented a self-healing selector registry that automatically detects failing locators and patches the elements file without manual intervention.
- Shipped with a full CI/CD pipeline using GitHub Actions, running headless Playwright and unit tests on every push.

CERTIFICATIONS & AWARDS

GitHub Copilot Certification (GH-300) · GitHub	<i>Apr 2026</i>
Azure AI Fundamentals (AI-900) · Microsoft	<i>Apr 2026</i>
Playwright JS/TS Automation Testing from Scratch & Framework · Udemy	<i>Mar 2026</i>
PostgreSQL Bootcamp — Beginner to Advanced · Udemy	<i>Mar 2026</i>
The Complete Prompt Engineering for AI Bootcamp · Udemy	<i>Nov 2025</i>
Service Commitment Award · Tata Consultancy Services	<i>May 2025</i>

EDUCATION

Bachelor of Engineering — Mechanical Engineering Bannari Amman Institute of Technology	<i>2019 – 2023</i>
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