



SHAWN RAHMAN

Software Development Engineer in Test (SDET)

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Website: <https://pcnslt.github.io/my-portfolio/>

OBJECTIVE

Seasoned Test Automation Engineer with 14+ years of expertise in designing and scaling robust automation frameworks across AWS, Java, TypeScript, and Python ecosystems. Proficient in end-to-end testing solutions using Cypress, Selenium, and Appium, paired with DevOps practices like CI/CD pipelines (GitHub Actions, AWS CodePipeline) and cloud infrastructure (Lambda, EC2, DynamoDB). Skilled in leading cross-functional teams, optimizing workflows, and mentoring peers, with a track record of integrating BDD methodologies, Splunk monitoring, and data-driven testing to ensure software reliability. Adept at bridging technical rigor with collaborative problem solving, from building ML driven AWS solutions, to crafting clear test strategies and dashboards - always focused on delivering efficient, user-centric quality assurance.

EDUCATION

- **Virginia Commonwealth University** | Richmond, VA | Dec 2010
 - Bachelor of Science in Electrical Engineering
 - Minor in Physics
 - Minor in Applied Mathematics
- **Northern Virginia Community College** | Annandale, VA | Jul 2007
 - Associate of Science in Electrical and Electronics Engineering
 - Minor in Applied Mathematics

EXPERIENCE

- **Delta Air Lines (Test Automation Lead / SDET)** | May 2021 – Present
 - Developed and configured a comprehensive Cypress test automation framework to enhance end-to-end testing coverage for web applications, leveraging TypeScript for test case development and maintainable code structures
 - Engineered reusable global utility functions in TypeScript for importing/exporting test data, ensuring seamless synchronization across production and staging environments
 - Integrated Cypress as a modular Node.js project within the larger web application, enabling cohesive deployment in the app's ecosystem

- Initiated and implemented CI/CD pipelines via GitHub Actions for the Cypress suite, automating test execution workflows and continuous integration of test cases
- Configured GitHub Actions to utilize EC2 instance groups for nightly runs of automated test suites, optimizing resource usage and mirroring production validations
- Executed JavaScript-based scripts in lower-level environments to generate test data dynamically, supporting stable, isolated setups for non-production validation
- Created a Python script using AWS SDK (boto3) to automate exporting production data to staging, streamlining test data creation processes
- Developed a Python boto3 tool that became a standard across teams for on-demand test data generation
- Designed and maintained Splunk dashboards to track/report application metrics, providing actionable insights to management and stakeholders
- Managed a rotating team of 3-20 automation engineers across on-shore/off-shore locations, coordinating via daily stand-ups and weekly progress reviews to meet automation goals
- Led a mobile-app UI testing project using Java, Maven, Selenium, Appium, Cucumber BDD, and Page Object Model to test an Android APK in GitHub Actions pipelines; scheduled nightly runs and expanded coverage, drastically cutting manual testing
- Worked on two automation projects targeting 90% coverage; achieved the goal on one, with the second progressing toward completion
- Developed automated acceptance tests using BDD frameworks and Cypress-based API tests to validate both front-end and back-end functionality
- Built Java-based Selenium-BDD acceptance tests that generate HTML reports; presented detailed test results and acceptance criteria to UX developers, clients, and stakeholders
- Executed scheduled CI/CD jobs to detect HTML and CSS code changes or defects, enabling proactive defect management

■ **US Patent and Trademark Office (SDET)** | Jun 2014 – Apr 2021

- Contributed to USPTO applications (payment processing system, international cooperative patent system, internal quality control tools), planning, designing, implementing, and executing automated test frameworks on remote machines
- Supported federal contract renewal processes.
- Conducted code reviews for automation projects using TestComplete, Java, Selenium, ReadyAPI/SoapUI, enforcing robust, maintainable, high-quality code
- Developed Java-based test scripts for AWS-hosted web services, integrating SOAP UI and ReadyAPI to validate functionality; managed test data and artifacts in AWS S3
- Established coding guidelines and best practices for Java automation scripts, promoting consistent style, readability, and maintainability
- Designed the test architecture for the USPTO's first DevOps initiative, aligning Java-driven automated testing with CI/CD pipelines for rapid feedback
- Collaborated with SMEs, developers, and analysts to standardize automated testing best practices, maximizing coverage and efficiency

- Implemented multiple Selenium-based frameworks: BDD with Cucumber in Java and data-driven/hybrid approaches with TestNG; built a Java-powered hybrid framework; maintained a Java-based Selenium Cucumber BDD framework with Serenity reporting and authored feature files
 - Created JScript modules for TestComplete and performed cross-browser testing using TestComplete and Selenium with Java, ensuring consistent user experiences across platforms
 - Led functional and end-to-end integration testing: prepared/executed automated and manual test cases, managed defect resolution, and reviewed manual test case quality
- **PNT Institute of Technology (Admin/Instructor)** | Jun 2010 – Apr 2014
 - Trained students on how to use Quick Test Professional (QTP) to automate testing processes, showing them real-world techniques they could apply on the job.
 - Taught Java Object-Oriented Programming in a classroom environment, guiding students through hands-on projects and code reviews.
 - Took care of student enrollment procedures, including academic counseling and job placement advice. Set up workshops that covered both technical and soft skills for interviews.
 - Helped coordinate schedules and promoted the institute's programs through local outreach and online channels.
- **Virginia Department of Health (QA Analyst)** | Mar 2008 – Apr 2010
 - Used HP Quick Test Pro (QTP)/UFT and VBScript to create and maintain automated tests for weekly builds. Focused on checking the system's user interface and verifying database interactions.
 - Prepared test plans by mapping out requirements and confirming each feature was covered, then logged defects in Test Director for tracking.
 - Ran multiple types of tests, including functionality, regression, and system integration checks, highlighting issues with any new code updates before release.
 - Ran Oracle queries to confirm data accuracy in the back end and built basic UNIX shell scripts to handle test data extraction.
 - Worked with Documentum to manage permission models and ensure security checks were addressed in test cases.
 - Ended each round of testing by gathering test metrics, verifying new features, and sending out release management notes to the rest of the team.

SKILLS

- Amazon Web Services (AWS):
 - Lambda, API Gateway, DynamoDB, S3, SQS / SNS, EC2, ECS, EFS / EBS, Kinesis Data Stream / Data Firehose / Video Stream, CloudFormation, Elastic Beanstalk, AWS SAM, CloudWatch, AppSync, Amplify, SageMaker, DataWrangler, IAM, Bedrock, CodePipeline / CodeDeploy / CodeCommit, AWS SDK / boto3 (Python scripts for AWS automation), AWS ML (Machine Learning) services

- Programming and Scripting Languages:
 - Java, JavaScript, TypeScript, Python, VBScript, Unix Shell Scripting, HTML / CSS
- Automation and Testing Tools
 - Cypress (TypeScript-based), Selenium WebDriver, Appium, Postman, TestComplete, Cucumber BDD, Page Object Model (POM), HP Quick Test Pro (QTP), UFT, ReadyAPI / SoapUI, Splunk (Dashboards / Monitoring), Serenity (Reporting)
- DevOps, CI/CD, & Build Tools
 - GitHub Actions (Automated pipelines), Maven (Java builds), AWS CodePipeline / CodeDeploy / CodeCommit, Rally (Project / QA Management)
- Databases & Data Storage
 - DynamoDB (NoSQL), Oracle (SQL queries / Data integrity testing), Amazon RDS, MySQL
- Testing & QA Methodologies
 - Front-End UI Automation, REST API Automation, Data-Driven & Hybrid Frameworks, BDD (Behavior-Driven Development), Functional Testing & Regression Testing, Cross-Browser Testing, Boundary Value Analysis / Black-Box Testing, System Integration Testing, Manual Testing & Defect Resolution, Continuous Testing in CI/CD Pipelines, Test Data Generation (using Python, JavaScript), Test Documentation (Test Strategies, Summaries, Traceability Matrices)
- Professional & Project Skills
 - QA Leadership (Team management: 3–20 on/off-shore), Project Management Scrum / Agile Methodologies (Daily Stand-ups, Sprint Planning, Demos), DevOps Culture & Practices, Web Development (UI, HTML/CSS), AWS MLM (Machine Learning) Projects, Stakeholder Collaboration (Clients, UX Developers), Test Reporting (HTML reports, dashboards), Academic Training & Instruction (Java OOP, QTP)