BHARAT VARSHNEY

Lead SDET | QA Leader | Gen AI | Team Mentor | Agentic AI | Functional & Automation Testing | Quality Assurance

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Forward-focused professional specializing in GenAI and Agentic AI workflows, enhancing QA functions, and mentoring teams to deliver secure, high-quality software in dynamic enterprise environments.

Industry Preference: Lead SDET / QA Lead / Tech Lead in Software Testing **Location Preference:** Delhi NCR or Remote Opportunity

EXECUTIVE PROFILE

- Lead SDET leading end-to-end QA strategy, test planning and quality metrics for AI and non-AI systems, with a current focus on AI/LLM and RAG-based applications at LexisNexis Risk Solutions; define evaluation benchmarks and quality gates for AI workflows and mentor a team of 4 QA/SDET engineers.
- Own QA strategy, test approach, quality gates and release readiness for enterprise platforms, partnering with Engineering and Product teams to identify quality risks early and drive defect management and root-cause analysis.
- A dedicated & result-oriented professional with **11+ years** of rich & extensive experience in Software Testing, IT Project Execution & related operations across **Trade Compliance**, **Mobile Application (Native, Web, Hybrid), HealthCare, Telecom, E-Commerce.**
- Adjusted & applied technical expertise in SDLC/STLC entailing Automation Testing, Validation Testing, Compatibility Testing; different types/levels of testing such as Functional & Non-functional Testing, System Testing, Regression Testing, Integration Testing, Smoke Testing, Sanity Testing & Black Box Testing.
- Proficient in STLC with expertise in defining test strategies, creating test plans, scenarios, and data, along with executing and validating tests. Skilled in QA frameworks, test cases, traceability matrices, risk mitigation, and QA process improvement.
- Hands-on experience with GenAI, RAG, vector databases, and prompt engineering, applied in real projects to build intelligent QA workflows and automation utilities that improved efficiency and product quality.
- Integrated MCP with GenAI to automate QA workflows (test data generation, summarization, defect analysis) and built a RAG-based chatbot using vector databases for contextual QA support, improving efficiency and release speed.
- Acquired proficiency in **Playwright**, applying it to **projects** to enhance end-to-end testing capabilities and improve test coverage across various web applications.
- Architected & implemented a robust automation framework using **Maven**, optimizing project structuring and dependency management; proficient in utilizing **GitHub and Jira** for effective version control and team collaboration in distributed settings.
- Technocrat with a key role in creating robust test automation suites for **microservice**-based applications, utilizing cloud technologies and containers **(Docker)**; proficient in Linux/Unix systems with expertise in **security testing, particularly web security vulnerabilities (OWASP).**
- Experienced in facilitating and participating in key **Agile ceremonies** such as sprint planning, daily stand-ups, sprint reviews, backlog refinement, and retrospectives. Leveraged **Agile methodologies** like **Scrum, Kanban** to ensure smooth project execution, foster team collaboration & **continuously improve processes**, resulting in enhanced product quality and timely delivery.
- Ability to convince & articulate **technical concepts** to **non-technical stakeholders** and influence decision-making.
- Resolved challenges during **test framework development** through diligent research & problem-solving.

TECHNICAL SKILLS

AI & LLM Testing	Golden dataset / eval set creation, LLM output validation, hallucination detection, prompt testing & versioning, regression suites for AI features, evaluation metrics (accuracy, relevance, consistency, latency, token usage), model comparison & A/B testing, guardrail testing (bias, toxicity, prompt injection), AI SLAs/SLOs, observability & tracing
AI Tools & Frameworks	Milvus (vector DB), Phoenix (LLM tracing & observability), RAG, hybrid & dense vector search, Ragas, DeepEval, LangChain, LangGraph, OpenAI Assistants API, AutoGen, Ollama, Azure AI Search & OpenAI, MCP, n8n, PostgreSQL
Leadership & Test Strategy	End-to-end test strategy & quality metrics, QA standards & best practices, framework architecture, POCs, team mentoring, client & stakeholder communication, Agile (Scrum, Kanban, Jira), test estimation, CI/CD quality gates, defect management, root-cause analysis, release readiness
Automation Tools & Technologies	Selenium WebDriver, Playwright, BDD (Cucumber), API Testing, REST Assured, Katalon Studio, Selenium Grid, Docker, Linux, SonarQube
API Tools & IDE Tools	Postman, JMeter, BlazeMeter, Swagger, Eclipse, Cursor, Claude, Copilot, Gemini
Testing & Technologies	Automation (API, Web, Mobile), Functional & Non-functional, Compatibility, Performance Testing, Security Testing (Basic), Burp Suite, POM, Kibana, ELK, REST & SOAP APIs, Microservices, Log verification, Newman, GA, Crashlytics, UI/UX, CleverTap, Charles Proxy, AWS S3 & serverless workflow testing, healthcare data privacy (HIPAA) compliance testing
Programming Languages	Java & Python
Cross-Browser Testing	BrowserStack, LambdaTest, TestSigma, TestGrid
Database Testing	SQL, MySQL, AWS Athena, Aurora DB, Snowflake
Testing Reports	Extent Report, Allure Report, Cucumber-HTML Report, TestNG Report, Report Portal
Bug Tracking & Test Management	JIRA, Confluence, Zephyr, Xray
Other Tools	Git, Jenkins, Gen-AI, N8N, Miro

CORE COMPETENCIES

Generative AI	Agentic AI Framework	RAG Implementation
Prompt Engineering	MCP Server	Low Code/No Code
Requirement Gathering & Analysis	Critical and Contextual Thinking	Issue Investigation
Project Planning & Execution	AWS Cloud, Azure DevOps	Continuous Integration & Deployment
Risk Assessment & Mitigation	Reporting & Documentation	Technical Collaboration
Client / Stakeholder Management	Team Collaboration	Leadership & Team Management
QA Strategy & Quality Gates	Vector Search & Retrieval Testing	Observability & Tracing

PROFESSIONAL EXPERIENCE

Lead SDET AI | LexisNexis Risk Solutions

March 2026 – Till date

Key Result Areas

- Define and drive QA strategy for AI/LLM applications (functional + non-functional).
- Design validation strategies for LLM outputs, applying ML fundamentals (embedding validation, classification checks, overfitting detection).
- Create, clean, and maintain golden datasets and evaluation benchmarks for training, feature extraction, and accuracy tracking.
- Validate RAG pipelines and enhance retrieval accuracy through semantic layers and knowledge graph integration.
- Ensure code quality via SonarQube and validate backend data integrity with PostgreSQL.
- Conduct model comparison, A/B testing, and define SLAs/SLOs for performance and reliability.
- Validate KV cache behavior in LLM inference, covering cache reuse, response consistency and latency impact.
- Implement prompt testing/versioning, regression suites, and automated evaluation pipelines (latency, token usage, response quality).
- Use Phoenix and monitoring tools for observability, tracing, and debugging AI pipelines.
- Test synchronous and asynchronous job flows for AI services, validating request handling, job status, retries, timeouts and result delivery.
- Develop WebSocket test scripts to validate real-time and streaming AI responses, including connection handling, message order and error scenarios.
- Integrate test suites into CI/CD pipelines; improve test stability with retries and flaky test handling.
- Collaborate with ML engineers and product teams; mentor QA/SDET teams and drive a quality engineering culture.

Highlights

- Built and scaled the Playwright automation framework for UI, API and AI workflows, and improved test stability by handling flaky scenarios, retries and dynamic AI responses.
- Introduced prompt testing, prompt versioning and regression suites for AI-driven features, backed by automated evaluation pipelines that track latency, token usage and response quality.
- Defined guardrail tests for bias, toxicity and prompt injection, and integrated the AI test suites into CI/CD pipelines for continuous validation.
- Reduced inference latency by 20% after optimizing vector search with Milvus. Improved dataset quality, increasing model accuracy by 15% through advanced preprocessing and feature engineering.

Technical QA Lead | AArete Technosoft Pvt. Ltd.

Jan 2022 – Feb 2026

Key Result Areas

- Built and deployed a local LLM solution using Ollama with end-to-end RAG architecture.
- Worked with Large Language Models (LLMs), prompt engineering techniques, word embeddings and vector databases on the Azure stack (AI Search, OpenAI).
- Defined and executed AI-specific testing strategies covering model consistency and adversarial scenarios.
- Established QA standards, test frameworks, and quality gates across data pipelines, AI/ML models, GenAI prompts and workflows, and application services.
- Designed and implemented a proof of concept for an agentic AI driven application, gaining hands-on experience across the development lifecycle.
- Created two automation use cases using n8n to streamline and support project level processes.
- Used Selenium and Rest Assured with the Page Object Model (POM), and TestNG for test execution, reporting and parallel runs, to cut testing time and improve scalability.
- Promoted the migration of the framework to modern technologies, including Playwright, to improve efficiency and platform compatibility across responsive web applications.
- Collaborated closely with cross-functional teams to embed QA requirements into project specifications, consistently reported on quality metrics and status, and established a knowledge-sharing platform to foster continuous development.
- Persuaded teams to adopt "shift-left" initiatives to enhance quality earlier in the development process and implemented prioritization techniques to focus testing on critical areas.
- Drove process improvements to enhance testing methodologies and efficiency while creating and maintaining comprehensive QA documentation for clear procedures and knowledge sharing.
- Took ownership of the test estimation process and delivered estimates as per the defined SDLC.
- Guided the team on integrating AI into the QA lifecycle, from intelligent test generation to AI-assisted triage, acting as the catalyst for adopting next-gen QA practices.
- Validated data quality for model training and inference pipelines, and the correctness, explainability and transparency of AI outputs; implemented AI-driven automation (self-healing tests, intelligent failure analysis).

Highlights

- Pioneered improvements that increased product test coverage and effectiveness by 30%, while accelerating project delivery by streamlining testing processes, achieving a 15% improvement and minimizing development delays.
- Successfully led cross-functional teams to elevate customer satisfaction, resulting in a 50% increase in positive feedback and a 20% reduction in complaints.
- Designed and implemented a robust Test Automation Framework covering UI, API Testing, and DB verification; optimized testing procedures, leading to a 25% decrease in bug identification time and enhancing product reliability.

Sr. QA Engineer | RenewBuy

Oct 2020 – Jan 2022

Key Result Areas

- Devised and executed detailed test plans, strategies, scenarios, and test scripts in alignment with acceptance criteria.
- Thoroughly assessed user stories, use cases, and requirements to ensure accuracy, practicality, and alignment with project goals.
- Managed comprehensive application testing including functional & non-functional, regression, retesting, database, load, RESTful Web Services with Postman & ETL testing of SaaS applications to ensure quality & reliability.
- Engineered and implemented testing strategies for microservices, integrating automated test suites into CI/CD pipelines via GitHub Actions. Optimized workflow efficiency, minimized manual testing, and accelerated reliable deployments.
- Worked with engineering leaders to promote an automation-first approach, reducing manual efforts and enhancing overall testing efficiency, while also actively participating in sprint meetings to align tasks and deliverables for smooth project progression.
- Acted as the primary point of contact for clients, addressing their queries, and ensuring high customer satisfaction throughout the project lifecycle.

Earlier Experience

Oct 2018 – Sept 2020	**Test Engineer** – Noble House
Sept 2016 – Oct 2018	**QA Engineer** – Rosmerta Technologies Pvt. Ltd.
Oct 2015 – Sept 2016	**Software Test Engineer** – Tolexo Online Pvt. Ltd.

SIGNIFICANT ACCOMPLISHMENTS ACROSS THE CAREER

- Actively engaged in the LambdaTest Conference, gaining valuable insights into cutting-edge industry trends & best practices in automation, while staying abreast of emerging technologies in software quality assurance.
- Achieved a top 5 position on the LambdaTest Conference leaderboard and won the Social Media Challenge, showcasing expertise in software testing and excellence in knowledge sharing and community engagement.
- Rewarded as "Top Performer of the Quarter" at the current organization, reflecting consistent excellence in delivering high-quality software testing results and contributing to the team's success.
- Attained the Exceptional Performer Award & selected as a BrowserStack Champion for outstanding contributions.
- Honored as the Star of the Month, showcasing a commitment to excellence & achievement in the workplace.
- Dedicated member of the Test Tribe & Shiftsync community providing countless learning opportunities and remarkable growth, fostering a deep enthusiasm for active participation and contribution in this vibrant group.

PROFESSIONAL PROJECTS

OG TradeCheckPoint – LexisNexis Risk Solutions (AI / LLM testing)

- Used Miro for requirement gathering and analysis.
- Created and maintained golden datasets (ground-truth question–answer sets) and evaluation benchmarks to track AI response accuracy, relevance and consistency across releases.
- Designed automated regression suites for prompt versioning to detect drift and maintain consistency across model updates.
- Benchmarked LLM performance using latency, throughput, and token-usage metrics to optimize cost and efficiency.
- Implemented guardrail tests for bias, toxicity, and prompt injection, ensuring compliance with ethical and security standards.
- Applied mutation testing to AI workflows by injecting controlled defects (e.g., invalid embeddings) to validate test robustness.
- Collaborated with ML engineers to design fallback strategies for retrieval failures, ensuring resilience in production pipelines.
- Built CI/CD integration for AI test suites, enabling continuous validation of model outputs during deployment.
- Validated the RAG pipeline end to end, covering ingestion, retrieval and answer generation, and checked that answers are grounded in the retrieved context to detect hallucinations.
- Tested Milvus vector database behaviour, including embedding storage, indexing and retrieval accuracy.
- Validated hybrid and dense vector search, comparing result relevance and ranking quality against expected results.
- Used Phoenix for LLM tracing, debugging and analysis of response behaviour and latency.
- Performed API and contract testing of the AI service endpoints using Swagger, covering request/response validation, negative scenarios and error handling.
- Performed vulnerability checks on the application and AI service endpoints using Burp Suite.
- Checked application and AI pipeline logs, traces and monitoring data in ELK to verify the flow across components, trace failures and debug AI pipelines.

MODA Healthcare Project – AArete Technosoft Pvt. Ltd.

- Designed and executed AI-specific testing strategies for healthcare workflows, including hallucination detection, prompt drift analysis, and regression testing of LLM outputs against medical datasets.
- Verified retrieval accuracy for patient records and medical knowledge bases, ensuring responses were grounded in the correct context.
- Validated session isolation and cache behavior to ensure compliance with HIPAA and patient data privacy standards.
- Validated healthcare data queries for accuracy, performance, and compliance. Ensured correct retrieval of anonymized patient records and medical datasets.

- Designed and executed test cases for serverless workflows handling healthcare events. Verified function triggers, execution correctness, error handling, and integration with downstream services.
- Tested ingestion and retrieval pipelines for healthcare data stored in S3. Verified encryption, access policies, and large-scale batch processing jobs for compliance and reliability.

Payment Gateway One Step Checkout – **Tolexo.com (A B2B e-commerce platform powered by IndiaMart)**

- Verified accurate updating of order databases and inventory systems after successful payments, and tested API responses under different scenarios like successful payments, failures, and timeouts.
- Ensured seamless integration of various payment gateways (credit/debit cards, net banking, wallets, UPI) with the e-commerce platform, validating transaction flow from checkout to payment confirmation.
- Steered load & stress testing to ensure the application can handle peak traffic (goal: support 100,000+ concurrent users with minimal performance degradation).
- Conducted rigorous testing for responsiveness across multiple devices and browsers while identifying, documenting & tracking payment-related bugs using test management tools like JIRA to ensure prompt resolution with development teams.
- Tested retry mechanisms for network failures, validated failover systems to ensure continuous payment functionality during server outages or gateway downtime.
- Worked closely with developers to design and implement robust APIs, using Swagger for endpoint validation and mocking, and leveraged Postman to enhance testing efficiency and defect detection through effective test case creation and bug reporting.

Automation Framework

- Developed a Java-based automation framework that reduced testing effort by 60%, testing time by 40%, and manual efforts, while increasing automation coverage by 30% and regression test coverage by 5%, and enhancing software quality by 25% through SonarQube integration for code quality monitoring and implemented a utility to automatically re-run failed test cases on the regression suite.
- Architected an innovative Jenkins plan for the Automation Testing project, delivering a 25% reduction in testing cycle duration & a 30% uptick in test accuracy metrics.
- Reduced flaky tests by 70% to ensure reliable and consistent results, while also enhancing test coverage with video recording and screenshots to improve issue diagnosis and debugging time by 40%.
- Produced an in-depth Test Completion report detailing 98% test coverage, 12 critical issues resolved, and 5 new features tested; instrumental in meeting project milestones and ensuring product quality.
- Enhanced collaboration and code management by leveraging Git version control, which improved real-time code visibility and team communication, resulting in a 10% increase in development efficiency and fewer merge conflicts.

KEY SKILLS

- Verbal, Written & Technical Communication (to non-technical stakeholders)
- Analytical Thinking, Troubleshooting & Problem-Solving
- Cross-functional Collaboration with ML, Product & Engineering Teams
- Stakeholder Influence, Negotiation & Conflict Resolution
- Mentorship & Team Leadership
- Quality Ownership & Strategic Thinking
- Customer Focus & Innovation
- Adaptability & Continuous Learning
- Time Management & Multi-tasking

CERTIFICATIONS

- Certified ISTQB Fundamental
- Certified AWS AI Fundamental
- Certified DevOps from KodeKloud
- Certified Google Cloud Generative AI Leader
- LambdaTest Software Testing & Automation Testing Professional Certificate

EDUCATION

B.Tech. (Electronics & Communication) from UPTU University, 2015

PERSONAL DETAILS

Date of Birth: 16th October 1993
Languages Known: English & Hindi