

Manager, GenAI & AI-Empowered Quality Engineering

Summary of This Role

Leads and manages comprehensive quality engineering practices empowered by GenAI and AI technologies to transform traditional testing and quality assurance across the organization. Performs strategic leadership to establish GenAI-empowered quality frameworks that leverage large language models and AI capabilities to enhance testing efficiency, automate quality processes, and deliver superior software quality outcomes. Manages cross-functional teams while driving adoption of GenAI and AI-powered quality engineering solutions throughout the software development lifecycle. Combines traditional quality engineering expertise with cutting-edge GenAI and AI implementation capabilities to enhance quality assurance through intelligent automation, predictive analytics, and AI-generated testing assets. Acts as subject matter expert and leader for GenAI-empowered quality engineering practices, methodologies, and tools while building and developing high-performing teams focused on leveraging GenAI and AI to improve quality engineering effectiveness.

What Part Will You Play?

- **GenAI-Empowered Quality Strategy Development & Best Practices:** Research, evaluate, and establish advanced quality engineering practices that harness GenAI and AI technologies to enhance traditional testing approaches. Develop comprehensive quality frameworks that leverage large language models for automated test case generation, AI-powered defect prediction, and intelligent test planning. Lead strategic initiatives for GenAI-empowered quality assurance including automated requirements analysis using LLMs, AI-generated test scenarios, and intelligent quality risk assessment. Create quality paradigms that modernize traditional QA through GenAI capabilities including natural language test creation, automated documentation generation, and AI-powered continuous quality insights.
- **Technical GenAI & AI Implementation Architecture for Quality Transformation:** Design and architect technical solutions that leverage GenAI and AI technologies to enhance quality engineering practices across multiple teams and projects. Develop technical roadmaps for GenAI-powered quality tool ecosystems, LLM-driven test automation frameworks, and AI-enhanced quality pipeline architectures. Oversee creation of sophisticated GenAI-empowered testing platforms that automatically generate test cases from requirements, create intelligent test data using AI models, and provide automated quality insights through natural language interfaces. Design advanced testing strategies that incorporate prompt-engineered test generation, AI-powered regression analysis, and GenAI-assisted quality reporting and analytics.
- **Team Leadership & GenAI Quality Engineering Management:** Lead, mentor, and develop a team of quality engineers specializing in GenAI and AI-empowered testing solutions, providing career

guidance in both traditional QA fundamentals and cutting-edge AI implementation. Manage team performance in developing and deploying GenAI-powered testing tools, AI-enhanced automation frameworks, and intelligent quality assurance systems. Build high-performing teams through strategic hiring of AI-literate quality engineers, skills development in prompt engineering for testing applications, and expertise building in GenAI-powered quality solutions. Foster innovation-driven team environment while ensuring mastery of both proven quality engineering principles and advanced GenAI/AI capabilities.

- **Stakeholder Communication & GenAI Quality Leadership:** Collaborate with senior management, development teams, and product groups to align GenAI-empowered quality initiatives with business objectives and digital transformation goals. Communicate the transformative potential of GenAI and AI technologies for quality engineering to non-technical stakeholders and executives, demonstrating ROI and efficiency gains. Facilitate cross-functional workshops showcasing GenAI-powered testing solutions, AI-enhanced quality metrics, and intelligent automation capabilities. Build consensus and drive adoption of GenAI-empowered quality practices that dramatically improve testing efficiency, coverage, and effectiveness across diverse teams and projects.
- **AI-Powered Predictive Analytics & Intelligent Quality Metrics:** Leverage GenAI and AI technologies to analyze quality data, predict defect patterns, and generate intelligent insights for data-driven quality engineering decisions. Design and implement AI-empowered quality measurement programs that automatically analyze test coverage patterns, predict regression risks using machine learning, and generate natural language quality reports through LLMs. Create GenAI-powered dashboards that provide conversational interfaces for quality metrics, automated trend analysis with natural language explanations, and predictive quality forecasting. Utilize large language models for automated root cause analysis, intelligent test failure categorization, and AI-generated quality improvement recommendations.
- **AI-Enhanced Risk Management & Predictive Quality Assurance:** Conduct intelligent risk assessment for quality initiatives using GenAI models to analyze requirements, predict potential failure points, and generate comprehensive mitigation strategies automatically. Perform proactive risk analysis leveraging AI algorithms for software release quality prediction, automated test coverage gap identification, and intelligent quality gate optimization. Develop GenAI-powered contingency planning systems that automatically adapt quality strategies based on real-time project data and historical patterns. Monitor quality trends using AI-powered analytics to predict emerging risks and automatically generate preventive action plans through intelligent quality management systems.
- **Strategic Planning & GenAI Quality Engineering Innovation:** Develop long-term strategic roadmaps for GenAI and AI-empowered quality engineering transformation, including investment planning for AI infrastructure, LLM integration, and team capability development. Manage budgets for GenAI platforms, AI-powered testing tools, cloud-based AI services, and strategic partnerships with AI technology providers. Lead organizational transformation initiatives that improve quality

engineering through GenAI-powered automation, intelligent testing workflows, and AI-enhanced quality processes. Execute complex quality modernization projects that integrate traditional QA excellence with advanced GenAI and AI capabilities for competitive advantage.

- **GenAI Training & AI Quality Engineering Evangelism:** Prepare and deliver compelling presentations on GenAI and AI-empowered quality engineering transformation to various audiences, demonstrating practical applications and business value. Lead comprehensive training programs on prompt engineering for testing, AI-powered automation development, and GenAI integration for quality teams. Create educational frameworks that combine traditional quality engineering mastery with hands-on GenAI implementation skills. Present case studies showcasing GenAI-powered quality improvements, AI-generated testing insights, and measurable business outcomes from intelligent quality engineering practices.
- **Comprehensive Quality Engineering Excellence with AI Empowerment:** Apply extensive traditional quality engineering expertise enhanced and amplified through GenAI and AI technologies across all testing domains including functional, performance, security, API, and mobile testing. Conduct intelligent impact analysis using AI models to automatically evaluate regression risks, optimize test execution through machine learning, and enhance application quality through predictive analytics. Oversee development of advanced testing frameworks that combine proven quality engineering methodologies with GenAI-powered test generation, AI-enhanced defect analysis, and intelligent quality optimization. Lead implementation of next-generation quality solutions including voice-activated testing through GenAI, automated exploratory testing with AI, and self-healing test automation powered by machine learning.
- **GenAI & AI Solution Development for Quality Engineering Innovation:** Drive development and deployment of custom GenAI and AI solutions specifically engineered for quality challenges including conversational test interfaces, AI-powered test case generation from natural language requirements, and intelligent quality coaching systems. Oversee creation of proprietary LLM applications for quality engineering including automated test documentation generation, AI-powered defect prediction models, and GenAI-enhanced quality reporting platforms. Lead innovation initiatives to develop breakthrough AI applications for quality engineering including automated code review with natural language explanations, intelligent test optimization recommendations, and AI-generated quality improvement strategies.

What Are We Looking For in This Role?

Minimum Qualifications

- Bachelor's Degree in Software Engineering, Information Systems, Computer Science, or other Technical degree; additional relevant experience in lieu of degree will be considered

- Typically Minimum 10+ Years Relevant Experience in software testing, quality engineering, coding, designing, and developing with strong foundation in traditional QA excellence
- Typically Minimum 5+ Years People Management Experience leading technical teams, preferably in quality engineering, AI implementation, or digital transformation domains
- Extensive hands-on testing experience across multiple testing types enhanced through AI and GenAI implementation for improved efficiency and effectiveness
- Proven experience in developing and deploying AI-powered solutions for quality engineering challenges including automated test generation and intelligent quality analytics
- Demonstrated experience in team leadership focused on technology transformation and AI adoption in quality engineering contexts
- Strong understanding of GenAI and AI technologies with proven ability to architect and implement AI solutions for quality engineering applications
- Experience with traditional quality engineering methodologies revolutionized through GenAI and AI empowerment
- Advanced communication skills with ability to demonstrate AI-powered quality transformation value to diverse stakeholders

Preferred Qualifications

- Master's Degree in Software Engineering, Information Systems, Computer Science, AI/ML, or related Technical field
- Typically Minimum 12+ Years Relevant Experience developing AI-empowered testing strategies and leading quality engineering transformation initiatives
- Leadership certification with focus on technology transformation and AI adoption management
- Experience in consulting or advisory roles driving quality engineering modernization through GenAI and AI implementation
- Professional certifications in both quality engineering excellence and AI/GenAI platforms with practical implementation experience
- Track record of developing and deploying custom GenAI and AI solutions for quality engineering innovation

What Are Our Desired Skills and Capabilities?

Skills / Knowledge: Senior technology leader with extensive experience in traditional quality engineering excellence amplified through GenAI and AI implementation, using advanced technical concepts to revolutionize quality practices and deliver breakthrough business outcomes. Demonstrates expert-level

understanding of quality engineering fundamentals enhanced with cutting-edge GenAI and AI solution development capabilities.

Job Complexity: Leads complex quality engineering transformation initiatives that leverage GenAI and AI technologies to enhance traditional testing approaches, requiring deep technical evaluation and strategic implementation across multiple environments, frameworks, and AI-powered solutions. Exercises advanced judgment in architecting optimal combinations of proven quality methodologies with innovative GenAI and AI capabilities for maximum business impact.

Supervision: Manages and develops high-performing teams with expertise in both quality engineering excellence and GenAI/AI implementation, determines strategic direction for AI-empowered quality transformation, and coordinates revolutionary quality initiatives across multiple projects. Provides visionary leadership and technical mentoring while driving organizational quality evolution through intelligent automation and AI-powered innovation.

Technical Skills Required:

- **GenAI & AI Platforms for Quality Engineering:** OpenAI GPT models, Anthropic Claude, Google Gemini, LangChain, LlamaIndex, Hugging Face Transformers, custom LLM fine-tuning for quality applications
- **AI-Powered Quality Engineering Tools:** AI test generation platforms, GenAI-powered automation frameworks, intelligent defect analysis systems, ML-powered test optimization tools
- **Programming Languages:** Python, JavaScript, TypeScript for AI integration, prompt engineering, and GenAI application development for quality solutions
- **Traditional Quality Engineering Excellence:** Selenium, Cypress, API testing tools, Performance testing, Security testing, Mobile testing frameworks enhanced with AI capabilities
- **AI/ML Development:** TensorFlow, PyTorch, Scikit-learn for custom AI model development specific to quality engineering challenges
- **Cloud AI Services:** AWS (Bedrock, SageMaker), Google Cloud (Vertex AI), Azure (OpenAI Service, Machine Learning) for scalable AI-powered quality solutions
- **CI/CD & DevOps:** Jenkins, GitLab CI, Azure DevOps enhanced with AI-powered quality gates and intelligent automation
- **Test Management Tools:** Jira, TestRail, Zephyr, qTest, Azure DevOps, Rally, HP ALM/Micro Focus ALM, Xray, TM4J, or other test case management and test execution platforms with GenAI integration capabilities

Leadership & Innovation Skills:

- Exceptional people management with focus on AI transformation and technology adoption in quality engineering
- Executive-level communication demonstrating AI-powered quality transformation value and ROI to senior leadership
- Strategic planning for quality engineering modernization through GenAI and AI empowerment
- Cross-functional collaboration driving AI adoption across development, operations, and quality assurance teams
- Thought leadership in GenAI and AI applications for quality engineering innovation and business transformation

GenAI & AI Solution Development Capabilities:

- Advanced understanding of GenAI and AI application development specifically for quality engineering challenges and opportunities
- Strategic thinking for quality transformation through intelligent automation and AI-powered innovation
- Technical architecture skills for implementing scalable GenAI and AI solutions in quality engineering contexts
- Budget management for AI infrastructure, platform costs, and technology transformation initiatives
- Vendor management and strategic partnerships with AI technology providers and quality engineering tool vendors

Additional Capabilities:

- Deep experience with AI-powered quality metrics, predictive analytics, and intelligent ROI analysis for quality engineering transformation
- Knowledge of AI governance, responsible AI practices, and compliance requirements for AI-powered quality solutions
- Continuous learning mindset with ability to stay current with rapidly evolving GenAI and AI technologies for quality engineering applications
- Strategic leadership experience with understanding of AI-powered quality business value and competitive advantage
- Innovation management expertise with focus on developing breakthrough GenAI and AI solutions for quality engineering excellence