Nate Biddle

Robotics QA | System & Integration Validation | Hands-On Test Execution

Manchester, NH | Willing to work onsite in Boston

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Professional Summary

Robotics-focused Quality Assurance Engineer with 10+ years of experience executing system-level validation across XR, autonomous systems, web, and native platforms. Master of Engineering in Robotics & Intelligent Autonomous Systems (GPA 3.96). Hands-on experience validating robotic control systems and executing integration test plans in simulation and production-like environments. Experienced in functional, integration, and system-level testing, performance data analysis, and cross-functional collaboration to drive KPI-based quality outcomes. Strong foundation in STLC, defect lifecycle management (JIRA), and hardware-software integration environments.

Skills & Core Competencies

Core Competencies:

- Functional, Integration, System & Performance Testing
- Digital Twin and Software-in-the-Loop/Hardware-in-the-Loop Testing
- Cloud Simulation Instancing And Testing Via Infrastructure As Code and Gitlab CI/CD
- Software Test Life Cycle (STLC)
- Robotic System Validation & Control Verification
- Test Case Execution & Data Collection
- KPI-Driven Quality Metrics
- Bug Management & Defect Lifecycle (JIRA)
- Root Cause Analysis
- ROS2/ROS & Autonomous Systems Simulation
- Hardware-Software Integration Testing

Skills:

Automation: Playwright, Cypress, Selenium, NUnit
Languages: Python, JavaScript/TypeScript, C#, C++
Robotics & Simulation: IsaacSim, IsaacAutomator, ROS2/ROS, Unity ML-Agents, OpenCV
Tools: JIRA, TestRail, Git, Docker
Databases: SQL, MongoDB, Azure Cosmos DB
Platforms: Linux (Ubuntu/Pop!_OS), Windows, XR (Meta Quest, Pico)

Education

Master Of Engineering, Robotics and Intelligent Autonomous Systems

University of Cincinnati | 2024 | GPA: 3.96

Relevant Focus Areas:

- Robot kinematics & dynamics (forward/inverse modeling)

- PID controller implementation and validation
- Autonomous vehicle simulation (ROS, OpenCV, perception systems)
- Sensor-based and time-based industrial PLC workflows
- Robotic quality control methodologies
- Statistical machine learning for system performance analysis

Dual Bachelor Of Science/Bachelor of Arts, Computer Science/Psychology
University of New Hampshire | 2015

Experience

AlensiaXR, Pittsburgh, PA (remote)

Director of TestOps (Hands-On QA Engineering Lead) **09/24 - Present**

- Execute system-level integration test plans validating control logic, state transitions, and real-time system behavior across XR and simulation-based platforms
- Perform functional, integration, and regression testing across XR, native (Windows/Mac), and web environments
- Validated sensor-driven workflows and real-time system responses under varied operational conditions
- Analyze performance metrics and report quality findings to engineering leadership
- Own defect lifecycle management using JIRA, ensuring traceability from discovery through resolution
- Contribute to CI/CD quality gates and release validation workflows
- Collaborate closely with engineers and operational stakeholders to validate deployments in production-like environments

XRHealth (Formerly RealizedCare/BehaVR), Nashville, TN

Director Of Software QA (Hands-On System Testing) **04/2022-09/2024**

- Architected and executed integration test strategies for Unity-based virtual reality applications, incorporating AI agents and real-time interactive systems
- Led both manual and automated testing efforts across functional, integration, and performance levels
- Collected and analyzed behavioral and stability data to validate system reliability
- Managed defect tracking, root cause analysis, and release sign-off processes
- Worked with cross-functional teams to meet quality standards, using KPI-driven objectives

Lead VR Software Engineer In Test (SDET) **05/2021-04/2022**

- Designed and executed comprehensive integration testing frameworks for interactive real-time VR systems
- Validated cross-platform functionality (iOS, Android, Web)
- Identified and resolved system-level requirement gaps through structured testing processes
- Conducted regression testing and production validation cycles

Level Access, Greater DC Area (remote)

Software Engineer & Software Engineer In Test **2015-2021**

- Executed functional, integration, and regression testing across web applications
- Built and maintained automated testing frameworks (Selenium-based)
- Managed defect lifecycle and collaborated with engineering on root cause analysis
- Performed API validation and database verification
- Contributed to feature development and production support activities