DAN NICOLAU

Boston, MA | (763) 568-5097 | dan.nicolau7@gmail.com | linkedin.com/in/dannicolau | github.com/dannicolau7

PROFESSIONAL SUMMARY

Senior AI Systems Quality Engineer with 7+ years of experience validating biometric authentication, healthcare platforms, and enterprise cloud systems. Expert in AI/ML model validation, advanced API automation, and Kubernetes-based microservices testing within security-compliant environments (HIPAA, ISO 27001, NIST 800-63). Proven track record designing scalable automation frameworks integrated into CI/CD pipelines and leading QA strategy for AI-driven systems. Actively leverages AI tools — including Claude (Anthropic), ChatGPT, and Claude Code — in daily engineering workflows to accelerate test automation, documentation, and decision-making. Currently pursuing an M.S. in Computing & Data Sciences at Boston University specializing in machine learning, AI governance, and secure cloud infrastructure.

CORE EXPERTISE

- AI & Biometric System Validation (Face Recognition, Fingerprint Authentication, Liveness Detection)
- Machine Learning Model Evaluation, Bias/Fairness Analysis & Performance Testing
- Advanced REST API Automation & Microservices Testing
- Cloud-Native Systems Validation (Kubernetes, Docker, AWS)
- Security & Compliance Testing (HIPAA, ISO 27001, NIST 800-63)
- CI/CD Automation Architecture & DevSecOps Integration
- AI-Augmented Engineering & Autonomous Testing Workflows (Claude, ChatGPT, Claude Code)

TECHNICAL SKILLS

AI & Machine Learning: Regression, Classification, Random Forest, Gradient Boosting, Neural Networks (Keras, TensorFlow), Cross-Validation, Feature Engineering, Bias/Fairness Analysis, Pandas, NumPy, Scikit-learn, EDA

AI Tools (Daily Use): Claude (Anthropic) — prompt engineering, test strategy, code review & docs; ChatGPT — research & ideation; Claude Code — CLI agentic coding workflows

Automation & APIs: Pytest, Postman, Playwright, Selenium, Robot Framework, JMeter, OAuth2/JWT Validation, REST API Testing

Programming: Python, JavaScript, HTML, CSS

Cloud & Infrastructure: AWS, Kubernetes, Docker, Jenkins, GitHub Actions, CI/CD Pipelines

Databases: MongoDB, PostgreSQL (pgAdmin)

PROFESSIONAL EXPERIENCE

Aware, Inc. – **Senior Quality Assurance Engineer** *2025 – Present*

Boston, MA

- Lead QA strategy for AI-powered biometric identity verification systems across mobile and web platforms.
- Validate face recognition, fingerprint authentication, and liveness detection models for accuracy, fraud resistance, and demographic fairness.
- Architect scalable Python-based API automation frameworks integrated with CI/CD pipelines.
- Test Kubernetes-based microservices for performance, resilience, and secure deployment.
- Perform security and compliance testing aligned with ISO 27001 and NIST 800-63 identity assurance standards.
- Use Claude and ChatGPT to generate edge-case test scenarios, draft compliance documentation, and accelerate QA reporting cycles.

Mobile Heartbeat – **Senior QA Engineer** *2023 – 2025*

Boston, MA

- Managed end-to-end QA for HIPAA-compliant healthcare communication systems (VoIP, secure messaging).
- Designed Hardware-in-the-Loop (HIL) testing environments for clinical device integrations.
- Built API automation frameworks that improved regression reliability and release stability.
- Led performance validation under real-world production workloads.

- Applied AI-assisted tooling to analyze test logs, generate regression summaries, and streamline sprint reporting.

Capgemini – Keurig Project – **QA Engineer** *Apr 2022 – Mar 2023*
Boston, MA

- Developed and maintained automated test scripts using Python, Selenium, and Robot Framework.
- Executed manual and automated regression testing to ensure product stability across releases.
- Assisted in CI/CD pipeline setup using Jenkins and GitHub for test orchestration and reporting.

Premium Soft Labs – **QA Engineer** *Nov 2018 – Apr 2022*
Phoenix, AZ

- Performed functional, system, regression, and UAT testing across 20+ web and mobile applications.
- Led accessibility testing initiatives to ensure compliance and usability across platforms.
- Collaborated with developers and product owners to define test plans and improve product quality.

SELECTED DATA SCIENCE PROJECTS

AI-Driven Cybersecurity Threat Detection

- Built classification models using Random Forest and Neural Networks for anomaly and threat identification.
- Applied cross-validation, hyperparameter tuning, and demographic fairness analysis.

Animation Movie Financial Modeling (52K Dataset)

- Performed multivariate EDA and regression analysis to predict box office revenue from budget and popularity signals.
- Applied PCA dimensionality reduction and created executive-level analytical visualizations.

OPEN SOURCE & AI PROJECTS

AI Testing Agent (In Development) – github.com/dannicolau7

Autonomous AI-powered testing framework that generates, executes, and analyzes software tests using large language models.

- Converts software requirements into structured, executable test cases.
- Generates Pytest automation code for APIs and microservices automatically.
- Executes tests and produces structured QA reports without manual intervention.
- Supports self-hosted LLM environments for enterprise security and compliance.

Technologies: Python, Pytest, REST APIs, LLM APIs, Prompt Engineering, CI/CD Integration

EDUCATION

Boston University – M.S. Computing & Data Sciences *2024 – 2026*
Relevant Coursework: Machine Learning, Deep Learning, Responsible AI, Data Management at Scale

Iași University of Life Sciences – M.S. & B.S. Science

CERTIFICATIONS

- IBM Data Science Professional Certificate
- Playwright JS Automation
- Postman REST API Testing