MARCELA DOS SANTOS

Test Automation Engineer | Python Automation | API Testing | CI/CD | BDD

Location: Montréal, QC
Languages: Portuguese (native), English (fluent), French (basic)
Email: profmnarcelasantos@gmail.com
LinkedIn: https://www.linkedin.com/in/marceladossantos/
GitHub: https://github.com/mgdossantos

PROFESSIONAL SUMMARY

Test Automation Engineer with strong expertise in Python-based automation, API testing, CI/CD pipelines, and BDD using Gherkin. Experienced designing automated testing strategies for complex systems, implementing robust test suites, and enhancing quality processes across software and robotics environments. Skilled in functional, integration, regression, and end-to-end testing, with deep understanding of SDLC, STLC, and risk-based testing. Known for analytical thinking, clear communication, and high technical adaptability.

CORE TECHNICAL SKILLS

Automation & QA

- Python (Advanced), Pytest

- Gherkin (BDD), automated acceptance tests

- REST API automated testing (Python requests, Pytest)

- CI/CD automation (GitHub Actions, Jenkins)

- Regression, integration, system, end-to-end testing

- Test strategy, test planning, risk-based testing

- Logging, debugging, root cause analysis

Tools & Frameworks

- Git, GitHub, GitHub Actions

- Linux/Unix environments

- JIRA (test case & defect tracking)

- Foundational knowledge: Selenium, Robot Framework

Software Engineering

- SDLC & STLC

- Design of test architecture for complex systems

- Requirements analysis & traceability

- Version control workflows

- Agile, Scrum

RELEVANT EXPERIENCE

Autonomous Systems Testing & Automation (Research + Applied Engineering)

2021 – 2024

- Designed and implemented automated testing workflows for autonomous and software-intensive systems using **Python, Pytest, Gherkin (BDD)**.

- Developed automated test suites targeting REST API endpoints, system behaviors, and module interactions.

- Integrated automated tests into **CI/CD pipelines** (GitHub Actions) enabling continuous verification at each code push.

- Defined test plans, test cases, acceptance criteria, and documentation for complex, multi-module systems.

- Executed regression, integration, and acceptance tests in simulated and real environments.

- Conducted root-cause analysis, improved logging and error reporting, and collaborated with engineering teams to resolve defects.

- Authored structured documentation supporting traceability, reproducibility, and quality improvement.

INDUSTRY EXPERIENCE

Advanced Intelligent Systems (AIS) – Burnaby, BC

Mitacs Accelerate Intern – Robotics System Engineering
May 2021 – Nov 2021

- Contributed to the development, validation, and optimization of autonomous robotic platforms (AMRs).

- Designed structured test plans for sensing, navigation, and control subsystems.

- Performed integration testing across hardware and software interfaces, troubleshooting complex issues.

- Documented testing procedures, workflows, and system behaviors for engineering and product teams.

- Applied MBSE and DSM to analyze and improve system modularity.

ADDITIONAL EXPERIENCE

Python & Software Engineering Instructor

2022 – 2024

- Taught Python programming, software testing fundamentals, and best practices in automation.

- Mentored students on Git, unit testing, CI/CD, and structured programming techniques.

- Created automated testing exercises using Python + Pytest.

EDUCATION

PhD in Computer Science – Autonomous Systems & Software Automation

Focus on automated acceptance testing, integration testing, BDD (Gherkin), and CI/CD applied to autonomous system validation.

Master's in Electrical Engineering – Control & Systems

Bachelor's in Computer Engineering

PROJECT HIGHLIGHTS

Automated BDD Testing Framework for Autonomous Systems

- Developed BDD test suites using **Gherkin** and automated them with **Python + Pytest**.

- Implemented robust CI workflows in **GitHub Actions**.

- Automated acceptance testing for platform behaviors, safety constraints, and system-level interactions.

REST API Automated Testing for Robotics Middleware

- Built API tests for internal services using **Python requests + Pytest**.

- Automated regression suite with CI integration.

- Designed assertions for data validation, error handling, and stability checks.

SOFT SKILLS

- Excellent written & verbal communication

- Problem-solving & analytical reasoning

- Cross-functional collaboration

- High attention to detail

- Fast learner & adaptable

- Strong documentation discipline