

Tapas Kumar Patra

LinkedIn: <https://linkedin.com/in/tapas-kumar-patra>
GitHub | Portfolio

Email: tapas.patra0406@gmail.com

Mobile: +91 8249124954

PROFESSIONAL SUMMARY

Automation Engineer with 4 years of experience specializing in backend development and test automation architecture for automotive platforms. Developed 6+ production tools using Python, FastAPI, Django, and PySide that reduced manual testing efforts by 60% across 15+ engineering teams. Authored 500+ automated test scripts and built AI-powered applications (RAG, Mistral AI), REST APIs, and real-time WebSocket systems. Recognized with 17 performance awards for technical innovation, team leadership, and delivering scalable solutions. Currently completing M.Tech in Software Systems while driving engineering excellence in Agile environments.

EDUCATION

Birla Institute of Science and Technology, Pilani

Jan,2021-Nov,2025

Master of Technology in Software Systems

Work Integrated Learning Program (WILP) – Completed alongside full-time employment

Relevant course work: Software Architecture, Advanced Algorithms, Database Systems, Distributed Computing, AI/ML

Narasimha Choudhury Autonomous College, Jajpur

June,2018-Aug,2021

Bachelor Of Computer Applications; CGPA: 6.74

CORE COMPETENCIES

Programming Languages: Python (3.7, 3.9, 3.11), JavaScript, SQL, HTML/CSS

Backend Development: FastAPI, Django, REST API, WebSocket, Microservices Architecture

Desktop Development: PySide2, PySide6

Test Automation & QA: Selenium WebDriver, Appium, Pytest, Slash Framework, Data-Driven Testing (DDT), Test Framework Architecture, Functional Testing, Regression Testing, Integration Testing

Databases & Data Storage: PostgreSQL, Redis, Supabase

Artificial Intelligence & Machine Learning: Retrieval-Augmented Generation (RAG), Mistral AI, Semantic Search, Vector Embeddings

Automotive Domain: Android Automotive OS, QNX, CAN Protocol, AUTOSAR, ECU Testing, Infotainment Systems

DevOps & Tools: Git, GitHub, Jira, TestRail, YAML, JSON, CI/CD, Code Review

Project Management: Agile Methodology, Scrum Framework, Sprint Planning, Stakeholder Management, Cross-Functional Team Leadership

PROFESSIONAL EXPERIENCE

Automation Engineer

Oct,2021-Present

Wipro Technologies | Bengaluru, India

- Spearhead automation strategy and framework development for Android Automotive and QNX-based infotainment platforms; oversee technical roadmap for tooling used by 15+ engineering teams
- Conduct architecture reviews, establish coding standards, and mentor 6 engineers on Python best practices and framework architecture

Test Automation Framework Development:

- Architected end-to-end Python automation framework from scratch for Android Automotive infotainment, slashing manual testing by 60% and boosting coverage by 35% across 6 modules (Audio, Media, Radio, Connectivity, Settings, Wi-Fi)
- Authored 1000+ automated test scripts using Selenium WebDriver, Appium, and Slash Framework with Data-Driven Testing (DDT) via YAML configurations
- Engineered UI-Autogen desktop tool (PySide6) parsing Android XML layouts to auto-generate 300-500 UI properties, accelerating bootstrapping by 40% across 15-20 modules
- Set code quality standards as module owner, conducting peer reviews for 50+ scripts monthly

Backend Development & Internal Tool Engineering:

- Developed TestRail Insight (Django, REST API, PostgreSQL) aggregating 8000+ test runs, bypassing API limitations to enable real-time dashboards
- Engineered RTM Helper Tool (PySide2) linking 6000+ test cases to Jira requirements across 12 modules, eliminating 100% manual RTM effort
- Created Rail-Bridge utility transferring 4000-5000 test cases between TestRail instances and Test-Crafter for bulk run creation, saving teams 1-2 hours daily

Technical Leadership & Project Management:

- Directed cross-functional teams of 16-20 engineers managing sprint planning, releases for Android Automotive and SYNC 4 platforms
- Trained 6 junior engineers; orchestrated Defect Life Cycle in Jira tracking 200+ defects per quarter
- Delivered stakeholder presentations on automation ROI; optimized test execution improving defect detection by 25%

PROJECTS

AI-Powered Portfolio Chatbot

FastAPI | Mistral AI | Supabase | RAG | Vector Embeddings | JavaScript

GitHub: github.com/tapas-patra/portfolio-chatbot | Live: <https://tapas-patra.github.io>

- Designed and deployed AI-powered chatbot using Retrieval-Augmented Generation (RAG) to answer recruiter queries 24/7
- Implemented semantic search functionality using vector embeddings via Mistral AI API
- Stored embeddings in Supabase vector database for real-time retrieval with sub-second response times
- Built FastAPI backend with REST endpoints for chat interactions and context management

Pocket Pad – Remote Control Application

FastAPI | WebSocket | JavaScript | Render Cloud Platform

GitHub: github.com/tapas-patra/pocket-pad | Live: <https://pocketpad.onrender.com>

- Developed real-time web application enabling smartphone-to-PC remote control over internet
- Implemented bi-directional WebSocket communication protocol for low-latency data transfer
- Achieved less than 100ms latency for real-time control commands

AWARDS & RECOGNITION

20 Performance Awards (2021–2025): Extraordinaire, Inspiring Performance, Victory League, Beyond the Call of Duty, Habit Flagbearer – Demonstrating Stewardship, and others. Received two consecutive 5/5 Outstanding Performance Ratings for exceptional contributions to automation, backend tool development, and team leadership.

ADDITIONAL INFORMATION

- Languages: English (Professional), Hindi (Native), Odia (Native)