

Paul-Andrei Sipos

Backend Software Engineer | Python Developer

PROFESSIONAL SUMMARY

Software Engineer with 5+ years of professional experience developing backend systems, automation frameworks, API integrations, and developer productivity tools. Experienced in Python development, REST APIs, microservices, distributed systems, CI/CD automation, and PostgreSQL. At Elektrobit Automotive, developed Python automation solutions that automated approximately 85% of manual testing workflows (~2000 test cases) through Polarion REST API integrations and custom execution frameworks. Built and maintained software solutions that improved engineering productivity, reduced manual effort, and streamlined testing processes. Strong interest in backend engineering, cloud-native systems, automation, and scalable software architecture.

WORK EXPERIENCE

SOFTWARE ENGINEER

Nov 2021 — Present

Elektrobit Automotive

Romania

- Developed Python-based automation frameworks automating approximately 85% of manual testing workflows (~2000 test cases).
- Designed and implemented REST API integrations with Polarion, ATP, and EB ITA platforms.
- Built backend services and automation tools using Python and PostgreSQL.
- Developed software solutions for data extraction, transformation, and automated workflow generation.
- Improved engineering productivity by eliminating repetitive manual testing activities.
- Automated the conversion of Polarion test specifications into executable automated tests.
- Continuously identified manual engineering processes and developed software solutions to automate and streamline workflows.
- Developed internal desktop applications and UI utilities for UDP signal injection and embedded target communication.
- Built tools supporting debugging, validation, and automated test execution.
- Worked with distributed test environments and embedded software systems.
- Collaborated with software developers, testers, and system engineers in Agile teams.
- Contributed to GitLab and Jenkins CI/CD pipelines.
- Integrated automated testing into continuous integration workflows.
- Supported release validation and regression testing activities.

EDUCATION

BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

Oct 2018 - Jul 2022

Faculty of Electrical Engineering and Computer Science

SKILLS

Python, JavaScript, TypeScript, SQL, C#, Java, C/C++, FastAPI, Flask, REST APIs, API Design, Backend Services, Microservices, Distributed Systems, Event-Driven Architecture, PostgreSQL, Redis, RabbitMQ, REST API Integration, Polarion API, GitLab API, Docker, Git, GitHub, GitLab, Gerrit, Jenkins, CI/CD Pipelines, Prometheus, Grafana, Jaeger, OpenTelemetry, Python Automation Frameworks, Test Automation, Workflow Automation, System Integration, Regression Testing, UDP Communication, Embedded Systems Testing, Raspberry Pi, Agile, Scrum, Continuous Integration, Continuous Delivery, AI-Assisted Software Development, Automation & Process Optimization, Developer Productivity Engineering, Problem Solving & Debugging, Technical Documentation, Cross-Functional Collaboration, Continuous Learning, System Design, Backend Architecture, Software Engineering Best Practices.

LANGUAGES

English(*Advanced*), Romanian(*Native*), Spanish(*Elementary*).

LINKS

Email: paulandrei@yahoo.com , GitHub: <https://github.com/paulandrei28> , LinkedIn: <https://linkedin.com/in/paul-andrei-sipos-0559191a3c>

PROJECTS

NEXUSHOP – DISTRIBUTED E-COMMERCE PLATFORM

- Designed and implemented a distributed microservices architecture.
- Developed backend APIs using FastAPI and Flask.
- Integrated RabbitMQ message queues for asynchronous communication.
- Implemented Redis caching and PostgreSQL persistence.
- Implemented JWT authentication, API Gateway patterns, rate limiting, and resilience mechanisms.
- Added monitoring, observability, and distributed tracing capabilities.
- Containerized services using Docker and Docker Compose.
- Implemented CI/CD workflows and production-style deployment practices.

AUTOMATED TRADING PLATFORM

- Developed a Python-based automated trading platform.
- Implemented strategy execution, portfolio monitoring, and risk management.
- Built backtesting and Monte Carlo simulation modules.
- Developed monitoring dashboards and reporting tools.
- Integrated brokerage APIs for automated order execution.

ROMANIAN WORD OF THE DAY (RWOTD)

- Developed a Progressive Web Application supporting offline functionality.
- Implemented service workers, notifications, and engagement features.
- Optimized application performance and user experience.
- Designed a mobile-first user experience focused on daily engagement.