

Adriano Vieira Petrich

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About me

Data Engineer from Brazil with Permanent Residency living in Berlin with 20 years of experience in designing and architecting cutting-edge distributed systems and backend solutions. Renowned for advanced Python expertise, having made significant contributions to OpenStack at Red Hat, where I led the development of core components and engineered a highly efficient workflow engine. Highly skilled in building scalable, secure APIs, designing robust cloud infrastructure, and delivering top-tier secure applications. Known for combining deep technical proficiency with the ability to simplify complex problems, mentor high-performing teams, and deliver innovative, high-impact software solutions across diverse industries and environments.

Technical Expertise

Programming Languages & Core Technologies: Python, Rust, Java, Async(Celery, Kafka, fastAPI)
Cloud & Infrastructure: Ansible, OpenStack, Containerization, Virtualization, Docker, prometheus
Architecture & Design: Distributed Systems, Microservices, Security Gateways, L4 Microkernel
Data & Machine Learning: SQL/NoSQL, Machine Learning, NLP, Computer Vision, GIS
Development Practices: Test-Driven Development (TDD), Behavior-Driven Development (BDD), Continuous Integration/Continuous Deployment (CI/CD), Agile/SCRUM
Operating Systems & Tools: Linux (Advanced), System Automation
Languages: English (Fluent), Portuguese (Native), Basic French, Basic Spanish

Experience

Senior Developer at Infodas GmbH

2022 — 2025

Development of a embedded content-aware gateway for industrial applications, integrating Rust, Python, and Ansible. Responsible for integration from baremetal kernel, virtualizations, and user level applications.

- Rust & Embedded Systems: Developed a content-aware gateway using Rust on an L4 microkernel, ensuring memory safety, real-time performance, and secure execution in industrial environments.
- Systems Integration & Automation: Engineered seamless integration between Rust modules, Python automation, and Ansible-based infrastructure, optimizing embedded system interactions and deployment processes.
- Performance, Security & Collaboration: Optimized low-level system performance, enforced secure coding practices, and acted as the key integration point between Systems and Platform teams for scalable, maintainable solutions.

Software Engineer at Red Hat (limited UK then GmbH): Major enterprise open-source software company, serving 90% of Fortune 500 companies.

2015 — 2022

Developed and maintained OpenStack (TripleO), optimizing scalability and reliability. Served as the primary contact for Bugzilla, streamlining issue resolution. Specialized in automation with Python and Ansible for efficient deployment and management.

- OpenStack Development & Maintenance: Led initial development and ongoing maintenance of OpenStack (TripleO) with a focus on automation using Python and Ansible.
- CI/CD & Workflow Orchestration: Engineered CI pipelines with Jenkins and Zuul; contributed as Core and DTL to Mistral, an open-source workflow engine.
- Scalable Cloud Infrastructure: Worked with large codebases, leveraging Python, Ansible, Bash, containers, and virtualization for orchestration in enterprise environments.

Senior Developer at Hogarth Worldwide: One of the world's largest marketing production agencies, part of WPP Group)

2013 — 2015

Maintained and enhanced a CRM for advertisement management, optimizing workflows across all aspects of digital media creation. Worked extensively with Python to handle large-scale data processing, leveraging S3 for efficient storage and retrieval of large media files.

- Cloud-Based Asset Management: Developed a provider-agnostic system using Django for scalable and flexible cloud deployment.
- Agile Development: Built using SCRUM, emphasizing iterative improvements and collaboration.
- Quality & Automation: Applied TDD, BDD, and CI to ensure reliability, test coverage, and seamless integration.

Lead Developer and Tech Lead at VirtualIX Brasil

2011 — 2013

- Startup Innovation: Contributed to a startup focused on delivering semantic knowledge for online products in Brazil, driving product intelligence and insights.
- Advanced Technologies: Utilized Machine Learning, Natural Language Processing (NLP), Computer Vision, and NoSQL to build scalable, intelligent systems.

- **Team Leadership & Collaboration:** Coordinated and acted as the liaison between the development team and Virginia Tech partnership while managing a local team for seamless project execution.

Various Software Development Jobs

2000 — 2013

With extensive experience across diverse industries including environmental monitoring, NGO support, banking, healthcare, telecommunications, and internet services, I have successfully led and contributed to the development of innovative solutions using cutting-edge technologies.

- **Deforestation Monitoring** Developed a Django-GIS app for satellite imagery analysis to combat Amazon deforestation, mentoring a team for long-term maintenance.
- **NGO Application Development** Led development, training, and mentoring efforts for a Django-based application supporting an NGO with unique scalability requirements.
- **Banking Solutions** Served as Tech Lead for a large Java team, delivering a robust offline banking solution for a major financial institution.
- **Healthcare Technology** Founded and led a startup, creating full-stack web and mobile applications focused on diabetes management.
- **Remote Desktop Technology** Oversaw offshore team development of a Linux-based remote window service server, utilizing Nomachine for efficient remote access.
- **ISP Infrastructure** Designed and integrated an ISP system, implementing JBoss, MySQL, RADIUS, and POTS for robust core infrastructure.

Education

I don't have a bachelor's degree, having left university to focus on programming. However, as I have since accumulated significant work experience, and as I am an avid self-taught learner, I don't think this limits my abilities as a developer.

Physics Bachelor - Instituto de Física USP

1995 — 2003

Specialized in the practical applications of physics, with a focus on developing innovative instrumentation, data acquisition systems, and analog-to-digital conversion. Gained hands-on experience in designing and implementing complex systems for scientific research. Completed additional coursework in biology and hardware design, expanding interdisciplinary knowledge and enhancing the ability to bridge the gap between software and hardware in real-world applications. This foundational experience has honed my problem-solving skills and deepened my technical versatility, which I continue to leverage in software engineering.

Electrical Engineering - Escola de Engenharia Mackenzie

1992 — 1995

Programming: C and Pascal, developing foundational skills in software development and algorithm design. Mathematics: Linear Algebra and Numerical Calculus, providing a solid understanding of mathematical modeling, problem-solving, and computational methods.

Presentations and Courses

Mistral - Project Update

Openstack Summit Berlin 2018

Yak shaving a good place to eat using non negative matrix factorization

Using data analysis to find a place to eat.

Europython 2015. Slides: <http://slidesha.re/nbTsaP>

Procrastinating with Celery (presented in Portuguese)

TDC 2011 (The Developers Conference 2011). Slides: <http://slidesha.re/nbTsaP>

Test Driven Development in Django, no excuses (presented in Portuguese)

FISL 11 (11th International Free Software Forum) in 2010 and in TDC 2010 (The Developers Conference 2010). Slides: <http://slidesha.re/b9xHYp>

Starting with TDD and BDD in Django (presented in Portuguese)

PythonBrasil[6] in 2010.

From 0 to Python to Django (presented in Portuguese)

A 80 hour course that starts with the basic principles of python and OO and ends with advanced django. Taught at both Globo.com and Globosat, members of the largest media company in Brazil.

Awards and Contests

ADK challenge for Google Developer Day 2011

One of the ten Brazilian finalists for the Android Development Kit challenge. <https://sites.google.com/site/opencallforgdd/the-challenge>