

Bonifácio de Oliveira

BACKEND ENGINEER | FULLSTACK | PYTHON, CLOUD AI AUTOMATION

Curitiba, Paraná, Brasil

☎ (+55) 92-98472-4897 | ✉ bonifaciodeoliveira@outlook.com | 📱 BonifacioDeOliveira | 🌐 bonifacio-oliveira

Summary

Backend / Platform Engineer with 7+ years of experience building scalable APIs, automation systems, AI-driven tools, and cloud infrastructure. Strong background in Python, FastAPI, Flask, PostgreSQL, SQLAlchemy, Alembic, Docker, Jenkins, AWS, GCP, Azure, OpenStack, and k3s. Experienced in healthcare SaaS, FHIR integrations, multi-tenant provisioning, RBAC, CI/CD, RPA/OCR automation, computer vision, and RAG-based AI tools. Delivered automation workflows processing roughly 100 prior authorizations per day, achieving approximately 80% acceptance and supporting an estimated USD 600K ROI.

Work Experience

Thoughtful AI

Austin - TX, United States (Remote)

FORWARD DEPLOYED ENGINEER

May. 2025 - Apr. 2026

- Built and deployed healthcare prior authorization automation workflows tailored to client operations, supporting an initial production volume of roughly 100 prior authorizations per day.
- Achieved approximately 80% automation acceptance in the initial rollout phase by analyzing workflow outcomes, identifying failure patterns, and translating operational feedback into improved automation behavior.
- Supported a projected ROI of approximately USD 600K by automating manual prior authorization processes and reducing staff effort across payer validation, documentation, and submission workflows.
- Implemented integrations with client systems through APIs, RPA, OCR, and workflow automation, enabling agents to retrieve, process, and validate healthcare documentation across operational systems.
- Participated in technical discovery with managers and client stakeholders to map business requirements, clarify workflow edge cases, define milestones, and align automation behavior with real-world operations.
- Optimized automation performance by identifying bottlenecks, improving reliability, and applying technical fixes based on production feedback and manual review outcomes.

Fitec (Foundation for Technological Innovations)

Manaus - AM, Brazil

SOFTWARE DEVELOPER

Aug. 2024 - April. 2025

- Built and maintained core backend capabilities for a B2B CRM and sales management platform, using FastAPI, PostgreSQL, SQLAlchemy, and Alembic to support customer, sales, and operational workflows.
- Contributed to the evolution of the CRM product by participating in discovery for new features, mapping business needs into backend architecture, database changes, API contracts, and delivery milestones.
- Developed RESTful APIs and database-backed services to centralize commercial data, support internal sales operations, and improve maintainability of business-critical workflows.
- Managed and maintained AWS services including EC2, RDS, and Lambda, supporting cloud-hosted application infrastructure and production backend operations.
- Implemented PostgreSQL schema design and migration workflows with Alembic, enabling safer database evolution and reducing risk during feature delivery.
- Worked closely with stakeholders to clarify requirements, validate workflow assumptions, and ensure technical implementation matched the needs of a B2B CRM environment.

INDT (Institute of Technological Development)

Manaus - AM, Brazil

SOFTWARE ENGINEER

Feb. 2021 - Jul. 2024

- Contributed to an AI-powered Android test generation framework using Python, LLMs, prompt engineering, model adaptation, UIAutomator, and internal automation libraries to convert natural-language test descriptions into automated test scripts, improving generated test acceptance from approximately 40% to 95%.
- Automated Android testing workflows using Python, UIAutomator, computer vision, OpenCV, Docker, Jenkins, and internal test frameworks, reducing manual validation effort and improving QA execution reliability.
- Improved the AI generation pipeline by preprocessing test descriptions, filtering noisy code artifacts, and preparing domain-specific automation context for more accurate generated test scripts.
- Supported local and cloud-based AI experimentation using GCP, dataset versioning workflows, internal model evaluation processes, and llama.cpp for local inference optimization.
- Developed a JetBrains IDE plugin in Java, integrating internal APIs and developer tooling to streamline access to the test generation platform for engineering and QA teams.
- Collaborated with Motorola QA and engineering teams to validate generated tests, collect feedback, and improve model quality, automation coverage, and generation reliability.

LUDUS (Laboratory of Technology, Innovation, and Creative Economy)

Manaus - AM, Brazil

UNDERGRADUATE RESEARCHER - ELGIN RESEARCH AND DEVELOPMENT PROJECT

Aug. 2021 - Jul. 2023

- Built cross-platform tooling for thermal printer integration using .NET and Python, enabling applications on Windows and Linux to communicate more reliably with printer APIs.
- Designed an automated validation framework for thermal printers, improving testing consistency and reducing the manual effort required to verify device behavior.
- Deployed a Flask-based remote testing service on Azure, allowing printer validation workflows to be executed, monitored, and scaled through cloud infrastructure.
- Developed integration components connecting local printer clients, backend services, and remote test execution environments.
- Prototyped an AI-powered retail recommendation engine to personalize product suggestions and support customer engagement use cases.
- Contributed to R&D delivery across embedded devices, backend systems, cloud deployment, automation, and machine learning prototypes.

LUDUS (Laboratory of Technology, Innovation, and Creative Economy)

Manaus - AM, Brazil

UNDERGRADUATE RESEARCHER - SAMSUNG RESEARCH AND DEVELOPMENT PROJECT

Feb. 2019 - Sep. 2021

- Built a real-time facial recognition system using Python, Flask, PostgreSQL, TensorFlow, PyTorch, and Keras, integrating computer vision models with backend APIs and persistent data storage.
- Designed image processing workflows to enhance frame quality, normalize visual inputs, and improve recognition reliability across real-world capture scenarios.
- Developed REST APIs and database-backed services to manage users, process recognition events, and expose AI inference results to frontend applications.
- Delivered a React-based web platform for managing identities, monitoring recognition outputs, and interacting with backend computer vision services.
- Implemented real-time video streaming capabilities, enabling continuous facial analysis across multiple users and camera feeds.
- Worked across the full stack of an AI R&D platform, combining machine learning, computer vision, backend development, frontend interfaces, and real-time media processing.

LSI (Laboratory of Intelligent Systems)

Manaus - AM, Brazil

UNDERGRADUATE RESEARCHER - SCIENTIFIC INITIATION PROJECT

Aug. 2018 - Feb. 2019

- Developed an AI recommendation system for e-commerce using Python and Scikit-learn, applying machine learning techniques to personalize product suggestions.
- Improved model performance through metric extraction, experimental evaluation, and hyperparameter tuning.

Publications

Embedded system for facial recognition using similarity metrics

Manaus - AM, Brazil

WRITER

Nov. 2019

- Published article at VII Regional Engineering Meeting, about embedded system for face recognition with Python, Similarity Metrics and Raspberry Pi.

Education

UEA (Amazon State University)

Manaus - AM, Brazil

BACHELOR - COMPUTER ENGINEERING

Feb. 2016 - 2024

Technical Skills

- **Backend Development:** FastAPI, Flask, Django, RESTful APIs, API integrations, Microservices, SQLAlchemy, Alembic, workflow automation.
- **Programming Languages:** Python, Java, .NET, SQL, JavaScript, C/C++.
- **Databases & Search:** PostgreSQL, PGVector, relational data modeling, database migrations, similarity search.
- **Cloud & DevOps:** AWS (EC2, RDS, Lambda), Google Cloud (GCP), Microsoft Azure, Docker, Jenkins, cloud computing, CI/CD.
- **Automation & RPA:** Automation, RPA, OCR, UIAutomator, workflow automation, test automation, client system integrations.
- **Machine Learning & AI:** Machine Learning, Computer Vision, PyTorch, TensorFlow, Keras, OpenCV, RAG, AI-driven automation.
- **Tools & Technologies:** Git, VirtualBox, Vagrant, Ngrok, Raspberry Pi, Arduino.
- **Frontend Development:** React, Svelte.