

# Guilherme Medeiros Gomes

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## Education

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### Federal University of Lavras

*Bachelor's degree, Information Systems*

Minas Gerais, Brazil

August 2023 - August 2027 (Expected)

## Leadership Activities

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### Computer Security and Audit Study Group (NESCAU)

*Student Member*

Minas Gerais, Brazil

January 2025 - Present

- Developed hands-on laboratories focused on vulnerability analysis in Linux-based systems.
- Organized lectures on information security for the local community in cooperation with other members.
- Managed discussion and study sessions on web vulnerabilities and application of best practices in software development.

## Projects

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### Freelance Services Management Platform

*Python, FastAPI, React.js, TypeScript, PostgreSQL, Docker, AWS*

GitHub

2025 - 2026

- Developed a REST API using FastAPI and PostgreSQL for entity management and data analysis.
- Built a web interface with reactive interactions using React and TypeScript.
- Implemented JWT-based authentication using cookies, providing a secure and private environment for users.
- Designed automated tests that cover the entire application using Pytest and Cypress.
- Created CI/CD pipelines with GitHub Actions and performed full deployment on AWS.

### Multiple Model RAG Application

*Python, FastAPI, PostgreSQL, pgvector, Docker, LangChain, Gemini/Ollama/Hugging Face*

GitHub

2025

- Developed a high-performance REST API to "talk" to documents, using a hybrid (Local/Cloud) generative AI architecture that reduces hallucinations through context injection.
- Implemented embedding storage using PostgreSQL, pgvector and HNSW indexes to ensure semantic cosine similarity searches with millisecond performance.
- Created a file ingestion flow, applying chunking and vectorization strategies with Open Source models for context retrieval.

## Skills

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- **Technical:** Python, JavaScript, TypeScript, C++, Java.
- **Frameworks & Tools:** FastAPI, Flask, Django, React.js, Node.js, Docker, PostgreSQL, AWS, Git, GitHub Actions.
- **Concepts:** RESTful APIs, CI/CD, Microservices, Agile Development.
- **Language:** Portuguese (Native), English (C1/Advanced).