

# 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)**

**Minas Gerais, Brazil)**

*Student Member*

*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 Plataform**

**GitHub**

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

*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**

**GitHub**

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

*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).