

# Rafael Torres Nóbrega Gomes

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## SUMMARY

Computer Science student at UFPB with experience in **Software Engineering, AI/ML Engineering, and Data Science**. Skilled in **scalable web applications, Machine Learning systems, and full-stack development**. Strong foundation in **system architecture and design patterns**, with a focus on building reliable, **AI-driven solutions** that deliver **real-world value and scalability**.

## EXPERIENCE

**MGI Tech (partnership with LAGID/UFPB)** | *Software Engineering Intern* **Apr 2025 - Present**

- Developed a **Retrieval-Augmented Generation (RAG)** system enabling **LLMs** to answer client queries using product manuals as context, leading to improved client satisfaction
- Implemented **LLM-powered data analysis workflows**, generating numerical indicators and insights in an interactive dashboard, improving decision-making speed.
- Contributed to **system architecture, data engineering, and ML deployment**, improving scalability and reliability.

**Zoox Smart Data (partnership with TRIL Lab)** | *Data Scientist* **Dec 2024 - Apr 2025**

- Performed **data preparation, exploratory analysis, and prototyping** for AI research initiatives, leading to improved model accuracy and insights
- Developed a **multi-agent system** for sales automation (**CrewAI**), enhancing sales efficiency and reducing manual workload

## PROJECTS

**Blonded AI – Music Recommendation System** | [Github](#)

- Built a **Flask**-based recommendation engine using **embeddings, PCA, and ChromaDB** with **cosine similarity** for fast vector-based similarity matching, featuring real-time **Spotify API** integration and a modern **Vue.js** interface.

**GuardAzul PB – Mobile Environmental Protection App** | [Github](#)

- Built a **React Native + FastAPI + PostgreSQL** app with **Computer Vision** validation for georeferenced environmental reports and automated pollution detection, featuring an **AI-powered chatbot** for coastal ecosystem education.

**TARG - Time-Series Analysis & Report Generator (Hackathon)** | [Github](#)

- Designed a web platform to predict BBAS3 stock prices (5-day horizon) using **LSTMs, web scraping, and sentiment analysis**.

**Brazilian Championship Simulator – Java + Spring Boot** | [Github](#)

- Built a football championship simulator leveraging **MVC, Strategy, and Factory patterns**, with automatic scheduling, realistic match simulation, and dynamic standings.

## EXTRACURRICULAR EXPERIENCE

**TAIL (Technology and Artificial Intelligence League)** | *Student Member* **Jun 2025 - Present**

- Advanced skills in **Machine Learning, Deep Learning, and Data Science** by building collaborative AI projects.
- Engaged in research and development activities within the first AI student league in Northeast Brazil.

**LAGID/UFPB** | *LLM API Workshop* **Apr 2025**

- Conducted a workshop on **LLM API** usage: authentication, prompting, chatbot deployment, and extracting insights from data for > 70 students.

## EDUCATION

**Federal University of Paraíba (UFPB)** | *Bachelor of Computer Science* **Jan 2024 - Dec 2027**

## CERTIFICATIONS

- Cambridge Certificate in Advanced English (CAE):** 01/2023  
CEFR B2 – Overall score: 175/220 (198 in Speaking)

## SKILLS

- Programming Languages:** Python, C, Java, R, JavaScript
- Machine Learning:** Neural Networks, NLP, RAG, Embeddings, Time Series Forecasting, Model Deployment, CV
- Frameworks & Tools:** Pandas, Scikit-learn, PostgreSQL, MongoDB, PyTorch, TensorFlow, Git, Docker, FastAPI
- Languages:** Portuguese (Native), English (Advanced, CAE Certified), Spanish (Intermediate)