Matheus Sousa Marinho

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Education

- **Federal University of Goiás (UFG)** — Goiânia, GO, Brazil
  Bachelor's Degree in Computer Engineering; GPA: 3.6 (8.3/10.0) — *October 2022 – Dec. 2027*

Experience

- **Center of Excellence in Artificial Intelligence (CEIA)** — Goiânia, GO, Brazil
  Backend Developer - Internship — *Sep 2025 - Present*
  - **Blockchain/API**: Participating in the development of a **blockchain-based system for agricultural traceability and decision support**, designed to enhance transparency and trust between producers and stakeholders. My work focuses on improving blockchain reliability and integrating on-chain data with backend services.
    - Implemented and optimized **chaincode (smart contracts)** in **Go** for the **Hyperledger Fabric** network.
    - Assisted in the **deployment and testing** of chaincode using **cctools**.
    - Developed **RESTful APIs** with **Golang** for secure user–blockchain interaction.
    - Added **authentication, access control**, and **error-handling** mechanisms to enhance security and robustness.
    - Designed routes for **on-chain/off-chain data synchronization**, ensuring reliable information flow across components.
- **Embrapa Arroz e Feijão** — Goiânia, GO, Brazil
  CNPq Undergraduate Research Fellow - Part-time — *Sep 2025 - Present*
  - **Data Analysis**: Conducted **descriptive statistical analyses** of Brazil's agricultural irrigation zones using **R programming**.
    - Processed and analyzed large datasets related to the national irrigation system.
    - Applied **statistical measures and visualizations** to identify key patterns and performance indicators.
    - Automated parts of the analysis workflow using R scripts to enhance reproducibility and efficiency.
  - **Statistical Modeling Support**: Currently assisting in the development of a **new methodology to calculate the ICAP mean** using **GAMLSS** models and **bootstrap techniques**.
    - Exploring and comparing different **statistical approaches** to improve accuracy and robustness in ICAP estimation.
    - Implementing and testing models in **R** for performance evaluation and reproducibility.
    - Supporting the research team with **data cleaning, analysis, and validation** of statistical results.
- **Momento.sh** — João Pessoa, PB, Brazil
  Tech Contributor - Part-time — *Jul 2025 - Present*
  - **Momento**: is a non-profit organization that connects university students with the job market, helping them prepare for meaningful and **impactful** careers. In this role, I have contributed to the following initiatives:
    - Assisted in the **implementation and update of the organization's new website**, improving usability and content structure.
    - Supported the **media and outreach efforts**, particularly through content publication and engagement on LinkedIn.
    - Collaborated with team members to align **technical updates and communication strategies** with the organization's mission.

Projects

- **TermiBOT**: A minimal terminal UI chatbot built with Next.js, React, and Groq AI — deployed on Vercel.
- **Stock Manager**: Implementation of algorithms and data structures for delivery optimization in distribution centers.

Programming Skills

- **Languages:** Python, C/C++, R, Go, SQL, Java. **Technologies**: Docker, Postman, Go, Hyperledger, NextJS.