

Lucas Teixeira Borges

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RESEARCH INTERESTS

Machine Learning · AI for Software Engineering · Agentic Systems · Conversational Agents

RESEARCH EXPERIENCE

Undergraduate Researcher at LabIA (UFBA) Sep 2024 – Present

- First author of a paper accepted at the AGENT Workshop @ ICSE 2026.
- Engineered SUNTInsight, an agentic system for data visualization.
- Currently collaborating on a research paper regarding Foundation Models for urban mobility.
- Produced technical documentation for the [SUNT Dataset](#), ensuring data reliability for the research group.
- **Fellowship History:** Recipient of the [MAI/DAI Government Fellowship](#) (2024–2025) and currently supported by the [NeoDados](#) industry-academia research stipend (2025–Present).

PROFESSIONAL EXPERIENCE

R&D Software Engineer Intern at NeoDados Sep 2025 – Present

- Designed and implemented a currently expanding data mining system to optimize headway and departure times for public transit lines in Salvador.
- Bridging the gap between academia and industry by applying LLMOps techniques to production environments.
- Leading project execution by coordinating tasks for interns working on the projects under my responsibility.

Full-Stack Developer Intern at ADN.tech Apr 2024 – Sep 2025

- Co-developed a modular Enterprise Asset Management System utilizing Angular and .NET, featuring service orders, automated maintenance planning, and real-time BI dashboards.
- Architected the security layer based on industry best practices, leading the implementation and delegating tasks to ensure data integrity across complex modules.
- Designed relational database schemas to handle large-scale asset data and maintenance logs.

Full-Stack Developer & Recruitment Manager at InfoJr UFBA Apr 2023 – Jul 2024

- As a developer, built web solutions using Next.js, adhering to strict software engineering standards.
- Managed the selection process for the Junior Enterprise, implementing inclusive and human-centric evaluation criteria.

PROJECTS

SUNTInsight: Agentic Data Visualization *Proprietary Code*

Designed and implemented a system in Python for public transit analytics using LLM-based agents that write and execute SQL queries and Python code for data visualization and analysis. Features time-series prediction using Foundation Models. Winner of the Best Graduation Thesis Project award at UFBA's DemoDay 2025.

VideoPlayground: Interactive Video Post-Processing

[Live Demo](#) | [GitHub](#)

Developed a web demo for real-time video post-processing and anonymization effects using Three.js, WebGL (GLSL Shaders) and face tracking models. Features stackable filters, 2D, and 3D overlays on both webcam real-time input or video files.

EDUCATION

2022 – 2027 **Federal University of Bahia (UFBA)**

(Expected) B.Sc. in Computer Science · CGPA: 8.44/10.00

Award: Winner of DemoDay 2025 (Best Graduation Thesis Project @ Institute of Computing)

PUBLICATIONS

Lucas T. Borges, et al. “An Agentic System for LLM-Driven Public Transportation Analytics: A Practical Application and Case Study in Salvador-Brazil”. In *International Workshop on Agentic Systems (AGENT)*, co-located with the 48th International Conference on Software Engineering (ICSE). Rio de Janeiro, Brazil, 2026. (Accepted).

Lucas T. Borges, Ricardo A. Rios. “One Step Forward, Two Steps Back: Regression Errors and Cost Inefficiencies in LLM Iterative Refinement for Code Generation”. In *I Can't Believe It's Not Better (ICBINB) Workshop at the 14th International Conference on Learning Representations (ICLR)*. Rio de Janeiro, Brazil, 2026. (Accepted).

SKILLS

Languages

Python, TypeScript, JavaScript, C#, SQL

AI & Data

LangChain, Ollama, LLMs/Agents, Pandas, PyTorch, scikit-learn

Dev Tools & Web

Git, Angular, .NET, L^AT_EX, Linux, Docker

Languages

Portuguese (Native), English (C2 - DET Score: 155/160)