Hallason Matias da Silva

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Professional Experience

Leadfy Imob — Tietê, Brazil

Full Stack Developer & AI Enginner — Mar 2025 – Present

• Developed and maintained APIs and microservices in Ruby, integrating with CRMs and third-party services. Built scalable data pipelines and deployed NLP models for classification and entity extraction using Transformers and FastText.

• Managed cloud infrastructure with Docker and Kubernetes; implemented observability with Prometheus, Grafana, and ELK Stack. Automated tasks via Bash scripting in Linux environments.

CEERMA-UFPE — Recife, Brazil

Researcher — Mar 2024 – May 2025

• Researched Remaining Useful Life (RUL) prediction using multivariate time series from industrial sensors. Applied DTW, Frenet distance, and deep learning models as autoencoders, Siamese, and Triplet networks for failure pattern detection.

CIn/Motorola — Recife, Brazil

Researcher & QA Intern — Jan 2023 – Mar 2025

• Developed tools for Android testing using Accessibility Service to record and replay UI state transitions. Automated and created test cases for mobile devices alongside the robotics team.

• Researched path heuristics for 6-DOF industrial robot arms to support test automation. Contributed to product performance visualization, and designed 3D-printed components for robotic validation setups.

Extracurricular Activities

Universidade Federal de Pernambuco — Recife, Brazil

Assistant Teacher of Control Engineering I — Oct 2023 – Apr 2024

• Taught fundamentals of classical control for continuous systems, including stability analysis and controller design for engineering students.

Universidade Federal de Pernambuco — Recife, Brazil

Assistant Teacher of Mathematics and Physics — Jul 2019 – May 2023

• Supported courses in General Physics I, Linear Algebra I, Differential and Integral Calculus IV, and Complements of Mathematics I, aiding students with theoretical and applied problem solving.

CNPq — Recife, Brazil

Scientific Researcher — Jul 2019 – Aug 2022

• Conducted research in pure and applied mathematics, covering Ring Theory, Topology, Functional Analysis, PDEs, FEM, Number Theory, and Numerical Analysis with scientific and engineering applications.

Projects

Hydraulic System Condition Monitoring — Mar 2024 - Nov 2024

A predictive maintenance project focused on estimating the Remaining Useful Life (RUL) of hydraulic systems using classical methods and machine learning. Applied time series similarity techniques and deep learning models to detect degradation patterns and assess equipment condition.

Education

B.Sc. in Mechanical Engineering, Universidade Federal de Pernambuco (UFPE) — Feb 2019 – Mar 2025

Relevant Coursework: Energy Systems (Thermodynamics, Fluid Mechanics, Heat and Mass Transfer), Mechatronics (Control Systems, Automation, Robotics), Structural Analysis and Design, Materials Science (Properties, Selection, Corrosion), and Manufacturing Processes (Machining, Casting, Welding). Completed one semester abroad at ENSTA Bretagne, France, focusing on advanced engineering design and simulation technologies.

Technologist in Internet Systems, Universidade Católica de Pernambuco (UNICAP) Jul 2024 – Dec 2026

Relevant Coursework: Programming Logic, Web Programming (front-end and back-end), Database Systems, Software Engineering, Computer Networks, Artificial Intelligence, Software Testing, Security and Auditing, Project Management, and Human-Computer Interaction, emphasizing practical software development, web technologies, and system integration.

Skills

Programming Languages: *Advanced:* Python, C/C++, Java; *Intermediate:* Ruby, SQL, Octave, MATLAB, LADDER; *Basic:* C#, JavaScript, R, Kotlin
Technologies: Docker, Kubernetes, Git, Linux, REST APIs, Elastic Stack (ELK), Prometheus, Grafana, Embedded Systems, Onshape, Ansys, FEMM
Machine Learning: PyTorch, TensorFlow, Transformers, FastText, NLP, Artificial Neural Networks, Data Analytics, Similarity Learning, Predictive Maintenance
Robotics & Control: Mobile Robotics, Autonomous Vehicles, Classical Control, Test Automation, 3D Printing, Simulation
Languages: Portuguese (native), English (advanced, 1 semester in U.S. high school), French (intermediate), Spanish and Italian (basic)
Awards: *Bronze Medalist* – Brazilian Math Olympiad for Public Schools (2017, 2018)
Global Recognition: *2nd Place – Motorola Global Hackathon 2024* among 243 teams from the U.S., China, India, and Brazil; 1st Place in Brazil's Best in Show and 3rd in People's Choice categories.