

Ailton Moreira

Information System Engineer

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Profile

Results-driven Full-Stack Engineer with 7+ years delivering scalable, production-grade web applications using React/Next.js and modern backends (Python/Node.js). Expertise in monolith and microservices architecture, REST/GraphQL APIs, real-time systems, Docker/CI/CD, and delivering high-availability solutions (99.9% uptime). Proven ability to own features end-to-end, mentor teams, and translate business requirements into robust technical solutions. PhD in Technology and Information Systems. Eager to bring strong ownership and full-stack expertise and increase value to business. Driven by first principles and critical thinking to deliver value through efficient, scalable solutions aligned with business needs.

Professional Experience

Work package 3 Co-Leader XiA Consortium (*Xpanding Innovative Alliance*) **EU** March 2025 - Present

- European initiative that addresses interoperability challenges in digital health through the European Health Data Space (EHDS).
- Empowering the healthcare workforce for interoperability in the context of the European Health Data Space
- Lead the design identification realization of needs and gaps analysis in healthcare interoperability.

Software Engineer - Backend Focus (Freelancer), (*ESC++*) **Remote** September 2025 - October 2025

- Led the design, implementation and integration of backend REST APIs using a microservices architecture, incorporating RBAC, authentication mechanisms, and database infrastructure to support healthcare information systems and optimize data management workflows.
- Applied Agile methodologies to ensure timely delivery and meet critical project deadlines.

Software Engineer - Frontend Focus, (*ANDRE*) *AI-Driven Automation* **Genève, CH** July 2024 - May 2025

- Architected and released new scalable versions of Next.js/TypeScript platform for AI-driven data analysis, achieving 99.9% uptime with Prometheus/Grafana monitoring and Docker containerization
- Integrated AI/ML models with Python backends, enabling real-time insights that boosted analysis speed by 25%.
- Developed 20+ reusable React components with Redux/RTK and TailwindCSS, enhancing frontend scalability and reducing code redundancy by 30% in Agile sprints.

Academy Training, (*Open Up*) **Porto, PT** May 2024 - September 2025

- Delivered PostgreSQL and MongoDB training to DBA teams, delivered AI, and Python chatbot training upskilling 50+ professionals in hands-on sessions.

Invited Assistant Professor, (*University of Minho*) **Guimarães, PT** September 2022 - Present

- Lectured on Engineering and Management of Information Systems degree course.
- Delivered lectures and labs on information systems fundamentals, C programming, algorithms, and NoSQL databases, mentoring 100+ students and fostering agile project skills.
- Mentor project teams, fostering analytical thinking and agile methodologies.

Full-stack developer & Data Engineer, (*Bosch Car Multimedia*) **Braga, PT** April 2020 - October 2022

- Designed and implemented streaming data pipelines for sensor data collection and real-time information sharing across factory systems.
- Member of Factory of Future project, developing real-time data pipelines with Apache Kafka, Spark, Druid, Solace PubSub, Python, processing sensor data for from factory lines and improving efficiency by 15%.
- Designed CEP architecture and ETL processes, creating a factory shop floor digital twin with multi-layer dashboards that enabled data-driven decisions and reduced downtime by 20%.
- Co-invented "OntoInfer" platform (patent pending), automating ontology file inference and correction.

Information Systems Engineer, (*Researcher at Intelligent Data Systems*) **Braga, PT** April 2018 - Present

- Collaborated in agile teams to deploy several applications for AIDA platforms and integrating legacy systems to cut manual errors by 40% and enhance interoperability.
- Work with a cross-disciplinary team in the design, development, and deployment of remote patient-monitoring platforms (AIDA Notes, AIDA Work), under strict regulatory timelines.
- Published several scientific papers on project outcomes and successfully supervised master's theses.

Web Developer, Internship (*Netgocio Lda*) **Guimarães, PT** June 2016 - September 2016

- Developed user interfaces and integrated back-end APIs, contributing to a production web app launched on time.

Education

PhD in Technology and Information Systems [University of Minho](#) **Guimarães, PT** *Oct 2018 - Sep 2024*
Specialization: Health Informatics and Personalized Omnichannel Interaction in Healthcare Services
Research Domain: Health Informatics, Multichannel & Omnichannel Interaction Services in Healthcare, Personalized Care Service, Healthcare Services Integration & Interoperability in Healthcare Services
Erasmus Program in Computer Science [Poznan University of Technology](#) **Poznań, PL** *Sep 2016 - Feb 2017*
Relevant Subjects: Software Design Patterns, Development of Computer Applications, Data Visualization.
Master's Degree in Information Systems [University of Minho](#) **Guimarães, PT** *Oct 2012 - Dec 2017*
Integrated Master's Degree in Engineering and Management of Information Systems - Hospital personal assistant

Technical Skills

- **Frontend:** ReactJS/NextJS (JavaScript/TypeScript) - (7+ years), TailwindCSS, Redux, Responsive Design
- **Backend/APIs:** Node.js/Express, PHP/Laravel, Python/Flask, REST/GraphQL/SOAP
- **Databases:** MySQL, PostgreSQL, Supabase, OracleDB, MongoDB/NoSQL, Redis, Apache Kafka
- **DevOps/Tools:** Docker, CI/CD (GitHub Actions/GitLab), Prometheus/Grafana, Git
- **AI:**Data Science, AI Autonomous Agents, N8N Workflows, Claude, Copilot, Grok, Lovable, Suna, Replit, Manus
- **Tools:** Apache Spark, Druid, Apache Flink
- **Methodologies:** Agile/Scrum, TDD, CI/CD, CRISP-DM
- **Data Engineering:** ETL Pipelines, Analytical Pipelines, Data Pipelines, Data Modeling
- **Other:** Java/C, Power BI/Tableau, PMP Fundamentals, System Integration, Enterprise Application Support, Data Products, Linux, VMware, Windows

Languages

- Portuguese [Native]
- English [Professional]
- Creole [Native]
- German [Initiate]

Courses

- IBM Data Engineering Professional (Ongoing) [Coursera](#)
- Prof Diploma in Agile and PM (Mar 2025) [Udemy](#)
- MongoDB for DBA (May - Jun 2024) [Udemy](#)
- Data Science (Feb 2024) - [Udemy](#)
- DevOps Foundations (Dec 2023) - [Coursera](#)
- Project Management Foundation (Nov 2023) - [LinkedIn Course](#)
- Typescript (Sep 2023) - [Udemy](#)
- Redux-RTK (Jul 2023) - [Udemy](#)
- C (Jan 2023) - [Udemy](#)
- GraphQL (Aug 2022) - [Udemy](#)
- Strategic Innovation and Execution, (Jul 2019) - [Udemy](#)

Key Projects

- **Backend Service Healthcare Gen**
 - Lead the design and implementation of new database based on client architecture.
 - Lead the development of microservices backend REST APIs and their deployment to production on cloud infrastructure.
 - Collaborated with cross-functional and multidisciplinary team to seamless integrate the backend services with frontend applications

• ANDRE.AI

- Built scalable NextJS application for AI-driven data analysis, delivering AI-driven analysis for our clients.
- Implemented TypeScript for type-safe development
- Integration with Python API backend

• AI models and AIDA-EHR

- Design and implementation of AI models in the AIDA-EHR system at ULSSA.
- Collaboration with cross-functional teams for model validation and testing

• Omnichannel Interaction Architecture

- Design and implementation of an omnichannel architecture for personalized healthcare service
- Used open-data standards to implement the omnichannel architecture based on Open-ehr standards
- Tested, validated and deployed an omnichannel interaction service for personalized healthcare service at ULSSA.

• Healthcare Digital Solutions (AIDA Apps)

- Patient Remote Monitoring Systems
- AIDA portals
- REST, SOAP and GraphQL APIs for healthcare data integration

• Bosch Real-time Data Processing

- Developed React-based dashboards for factory monitoring, optimizing factory operations.
- Used Apache Kafka for real-time data streaming
- Implemented Docker containerization for deployment

Scientific Works - Publications

Journals

Heliyon	<i>A maturity model for omnichannel adoption in healthcare institutions</i>	Sep 2024
MDPI - Information	<i>An Open Data-Based Omnichannel Approach for Personalized Healthcare</i>	May 2024
Mayo Clinic - Digital Health	<i>An Overview of Omnichannel Interaction in Health Care Services</i>	Apr 2023
MDPI - Information	<i>Case Study of Multichannel Interaction in Healthcare Services</i>	Jan 2023
MDPI - Applied Sciences	<i>Real-Time Information Processing and Visualization in Industry</i>	May 2021

Conference

EAI AISCOVID-19 2022	<i>Multichannel Services for Patient Home-Based Care During COVID-19</i>	Jun 2023
EDI40 2023	<i>Multichannel Mobile Companions for Personalized Healthcare Opportunities and Challenges</i>	Apr 2023
EDI40 2022	<i>Interoperability and Security Issues on Multichannel Interaction In Healthcare Services</i>	Apr 2022
ICTH 2020	<i>A Conceptual Model for Multichannel Interaction in Healthcare Services</i>	Nov 2020
EDI40 2020	<i>Multichannel Interaction for Healthcare Intelligent Decision Support</i>	Apr 2020

Others

Certifications

- Professional Diploma in Agile and Project Management by IMTF (2025)
- Project Management Foundations by Bonnie Biafore (2023)
- Applied Innovation by David O'Sullivan (2019)

European Award, Honorable Mentions *International Hospital Federation* 2021
Home Based Care in Covid Management: Telemonitoring using self-reporting and health professional surveillance