

Fabio Matheus Mantelli

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Summary

IT professional with over 10+ years of experience in designing, implementing, and managing IT infrastructure, cloud solutions, and network systems for R&D projects in the energy sector. Proficient in AWS (S3, EC2), Linux (Ubuntu, CentOS, Debian), Windows Server (2016, 2022, 2025), and database management (SQLite, MySQL, InfluxDB, SNAPdb, PostgreSQL). Skilled in Python, C#, and Next.js (React) for software and web development. Expertise in configuring LAN, VPN, and firewalls for secure communication across international research networks.

Education

Federal Institute of Santa Catarina, Bachelor of Electrical Engineering Aug 2020

- GPA: 3.8
- **Thesis:** Blockchain and Smart Contracts: Peer-to-Peer Transactions for Microgrid Electric Energy Trading ([Link](#))

Federal Institute of Santa Catarina, Undergraduate Degree in Energy Systems Oct 2011
Technology

- **Thesis:** Use of Object-Oriented Computational Paradigm for Phasor Data Request and Acquisition

Technical Skills

Programming Languages: Python, C#, C/C++, JavaScript (React, Next.js), Matlab

Cloud & Infrastructure: AWS (S3, EC2), Google Cloud Platform, Terraform, Docker

Operating Systems: Linux (Ubuntu, CentOS, Debian), Windows Server (2016, 2022, 2025)

Databases: SQLite, MySQL, InfluxDB, SNAPdb (Time-Series), PostgreSQL, MongoDB

Networking: LAN configuration, VPN, Firewall setup, IEEE C37.118.2-2011, IEEE Std 2664-2024

Tools & Platforms: Grafana, Zabbix, .NET, Visual Studio Code, openPDC, openHistorian 2, openECA, Stream Splitter

Certifications in Progress: CompTIA (Expected 2025)

Professional Experience

IT Specialist / Electrical Engineer, INESC P&D Brasil – Florianópolis, SC, Brazil Nov 2023 – Present

- Designed and maintained IT infrastructure for synchrophasor-based R&D projects, configuring AWS S3 and EC2 for data storage and processing.
- Implemented secure network communication (LAN, VPN, firewalls) for data exchange with partner universities in Brazil, Chile, Argentina, Uruguay, Portugal, Spain, Italy, and Croatia.
- Developed Python and C# applications for real-time data acquisition and processing, integrating with openPDC and Grafana for performance monitoring.
- Managed Linux (Ubuntu, CentOS) and Windows Server (2022, 2025) environments, including user provisioning, system partitioning, and database administration (MySQL, InfluxDB, SNAPdb).
- Applied Kanban methodology to manage tasks and optimize workflow across all IT and development projects.

IT Specialist /Electrical Engineer, FEESC – Florianópolis, SC, Brazil Jun 2015 – Oct 2023

- Led IT operations for the MedFasee BT Brasil System, managing network infrastructure (LAN, VPN) and server configurations on Linux (Debian, CentOS) and Windows Server (2016, 2022).
- Configured and maintained databases (SQLite, PostgreSQL, SNAPdb) for synchrophasor data storage and analysis, optimizing performance for real-time applications.
- Developed Next.js-based dashboards for operational monitoring of synchrophasor systems across Brazil, Argentina, Chile, Portugal, and Spain.
- Performed system administration tasks, including firewall setup, computer formatting, and user management, ensuring secure and reliable communication with the National Electric System Operator (ONS).

- Applied Kanban methodology to manage tasks and optimize workflow.

IT Researcher, LabPlan/UFSC – Florianópolis, SC, Brazil

Sep 2009 – May 2015

- Built and managed IT infrastructure for the MedFasee BT Project, configuring Zabbix for system monitoring and Docker for application deployment.
- Developed C/C++ and Matlab scripts for synchronized phasor measurement systems, integrating with IEEE C37.118.2-2011 protocols.
- Configured LAN networks and firewalls to enable secure data exchange between UFSC and partner institutions.
- Authored technical manuals for firewall, PMU, and GPS clock configurations, improving team onboarding and system reliability.

Publications

Operation and Maintenance of a Synchronized Phasor Measurement System – MedFasee Project

Oct 2017

SNPTEE (XXIV National Seminar on Electric Energy Production and Transmission)
Curitiba, PR, Brazil