Pedro Ivo Santos Leite

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Professional Summary

Currently pursuing a Master's degree in Computer Science (AI and Machine Learning) with a solid background in IT, specializing in the development of intelligent solutions for agribusiness. Expertise in creating predictive models for beef and dairy cattle farming, using advanced techniques in Machine Learning, Time Series, and IoT data analysis. Hybrid profile combining academic rigor with practical experience in systems infrastructure, focused on transforming complex data into operational forecasts of high strategic value for the agricultural sector.

Education

Instituto Federal de Campina Grande 2025 – Atual

Master's student in Artificial Intelligence and Machine Learning *Campina Grande, PB*

- Research focused on Deep Learning applied to Animal Phenotyping or Time Series for Agribusiness.
- Subjects: Statistical Methods, Advanced Topics in Software Engineering.

Universidade Federal da Paraiba Campina Grande, PB, Brasil

Bachelor of Arts in Computer Science, Minor in Electronic Engineering *Jan. 1975 – Dec 1975*

Universidade Federal da Paraiba Campina Grande, PB, Brasil

Post-Graduating in Computer Science *Jan 1980 – Dec 1980*

Experience

ITFPB - Machine Learning Researcher (Master's) 2024 – Present

Precision Livestock Project *Campina Grande, Brazil*

- Developing **Time Series Forecasting** models for milk production and cattle weight gain prediction.
- Processing high-volume data from IoT sensors and historical farm records for agribusiness optimization.
- Applying **Feature Engineering** techniques to biological and climatic variables, including the Temperature Humidity Index (THI).

Intelicampo - Inteligent Farming 2013 – Present

IT Project Manager *Brazil*

- Leading IT initiatives in the **Agribusiness** sector, focusing on digital transformation and data-driven solutions for farm management.
- Overseeing project lifecycles to integrate technology into agricultural operations, enhancing productivity and operational control.

RBC Investor Services - Worldwide Banking 2007 – 2013

Systems Analyst / IT Project Manager *Canada*

- Acted as both Systems Analyst and Project Manager in the **Financial Services** industry, managing complex systems for international investors.
- Optimized financial software workflows and ensured high availability of mission-critical systems in a global banking environment.

Companhia Hidro Elétrica do São Francisco) - Energy Management System 1978 – 1999

IT Systems Developer *Brazil*

- Developed core IT systems for the **Energy** sector, contributing to the automation and digitalization of large-scale infrastructure.
- Built and maintained software solutions for utility management and operational data processing.

Projects

AgroPredict: ML para Desempenho Zootécnico | *Python, XGBoost, Scikit-learn, Streamlit* 2024

- Desenvolvimento de modelos de **Machine Learning** para prever o Ganho de Peso Médio Diário (GMD) em bovinos de corte e a produção diária em sistemas leiteiros.
- Implementei técnicas de **Feature Engineering** para integrar dados de sensores térmicos (THI) e nutricionais, aumentando a precisão do modelo em 18% em comparação a métodos estatísticos tradicionais.
- Utilizei **XGBoost Regressor** com otimização de hiperparâmetros (Bayesian Optimization) para lidar com a sazonalidade e ruídos dos dados de campo.
- Construí um dashboard interativo em **Streamlit** para visualização de KPIs operacionais e simulações de cenários de produtividade para gestores rurais.

Pipeline de Dados Meteorológicos para IoT | *Python, FastAPI, PostgreSQL, Docker* 2024

- Estruturei um sistema de captura automatizada de dados via APIs meteorológicas para enriquecer bases de dados de fazendas parceiras.
- Apliquei conhecimentos de **Engenharia de Software (TI)** para garantir a escalabilidade do sistema e a integridade dos dados coletados em tempo real.

Technical Skills

Languages: Java, Python (Pandas, Scikit-learn), C/C++, SQL (Postgres), JavaScript, HTML/CSS, R
Frameworks: React, Node.js
TI/MLOps: Git
Libraries: pandas, NumPy, Matplotlib
Agro Context: Ganho de Peso Médio Diário (GMD), Curvas de Lactação, Análise de Estresse Térmico.