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Alexandre E. de L. Nobrega

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Patos, Brazil

Work Experience

Software Dev. Junior

UniFIP (Patos University Center)

Mar 2025 – Present

IT Management

Patos, Brazil

- Responsible for maintaining monolithic systems and APIs developed in Django, including features such as diploma generation, class scheduling, and lesson planning. Tasks included bug fixing, continuous improvement, and implementing new requirements.
- Contributed to the implementation of new systems integrating legacy data, such as scheduling history, enabling the automated generation of teaching activity records.

Software Dev. Trainee

UniFIP (Patos University Center)

Sep 2024 – Fev 2025

IT Management

Patos, Brazil

- Designed an internal extension system between departments using Django, integrated with Docker for environment standardization and PostgreSQL as the relational database.
- Developed prototypes of real-time chat systems using Django and WebSocket, and performed interface optimizations using JavaScript, Bootstrap, HTML, and CSS.
- Automated academic processes through desktop applications built with Tkinter and Selenium, improving operational efficiency and reducing manual tasks for staff..

Main Projects

Development of the Intensio

2023

Bachelor's Research

• Used Python with libraries such as NumPy, SciPy, and Tkinter for statistical processing of time series data, development of graphical user interfaces, installer, and user manual, as well as supervised machine learning modeling. The project resulted in a registered computer program and a publication in the COOPEX journal.

Machine learning for spatial interpolation

2025

Master's Research

• Used Python and libraries such as NumPy, Scikit-learn, Pandas, and TensorFlow to compare machine learning methods with traditional statistical approaches for spatial interpolation of rainfall data. The study resulted in a publication in the IEEE Access journal.

Education

• M.Sc. Information Technology, Federal University of Rio Grande do Norte, Brazil.

2024 – Present

• **B.Sc. Civil Engineering,** *Patos University Center, Brazil.*

2019 - 2023

Technologies

- Languages: Python, JavaScript, TypeScript;
- Libraries and Frameworks: NumPy, Pandas, Scikit-learn, TensorFlow, Selenium, React, Django, Node.js;
- Supporting Technologies: Docker, Git, PostgreSQL, HTML, CSS, Jupyter, Overleaf.