JOÃO PEDRO ALVES

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Education

University at Buffalo, The State University of New York

Chemical Engineering, B.S. Aug 2021 — Expected May 2025

- **Technical GPA:** 3.97
- **Coursework:** Balances, Thermodynamics, Materials, Transport, Statistics, Reaction Engineering.

Work Experience

Process Engineering Intern at Alkegen Jun 2023 — Present

- Implemented Python (Pandas and Plotly) to collect and analyze die cutters that had not been used in years in the facility. Over 900 dies were purged, and around 2,700 sq. ft. were liberated on the factory floor.
- Maintained close contact with over 40 operators through daily Gemba walks to improve productivity, engagement, and job satisfaction.
- Collected data on equipment breakdowns and processed them in Excel on a regular basis. The analyzed data was then used by the maintenance dept. to properly schedule preventive maintenance days.
- Collaborated closely with R&D to actualize 2 new products onto production line.

R&D Engineering Intern at Dimien Inc. Jun 2022 — Jan 2023

- Manufactured chemicals, from raw materials to finished products.
- Contributed to the development of Vanadium Oxide Li-ion batteries.
- Formatted and streamlined Excel spreadsheets for the manufacturing process and cost analysis.
- Managed characterization methods such as X-ray diffraction.
- Tested and assembled over 400 batteries inside a glovebox for quality assurance.
- Performed multiple experiments involving battery design with the intention of reducing the cost per kWh.

Contact information is available upon request.

Research

Undergraduate Researcher Jan 2023 — May 2023

- Recreated two different biomedical models from academia on MATLAB through extensive use of ordinary differential equations, with the objective being research validation and practice.
- Obtained more than 10 matching plots by the end of the semester, with one model being entirely successfully replicated on MATLAB.

Projects

Turbine Design

- Led a team of four engineering students to design and optimize a small-scale turbine. More than 8.6 W*s were generated by the turbine during test day.

Skills

- **Microsoft Office:** Excel (Macros, Pivot Tables, Small Data Analysis), PowerPoint, Word
- **Programming:** Visual Basic, MATLAB, Python (Numpy, Pandas, Matplotlib)
- **Languages:** Portuguese (Native), English (Fluent), Spanish (Full Professional Proficiency)
- **Laboratory:** Wet-Lab Techniques