Anthony Zappala

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CAREER OBJECTIVES

Recent chemical engineering graduate with experience in process design, electrochemistry, and AI automation. Skilled in using Aspen Plus for process simulation, Python and Excel VBA for data analysis and workflow automation, and a variety of wet lab and materials characterization techniques. Passionate about advancing sustainable energy solutions and leveraging AI-driven tools to create smarter, more efficient engineering workflows that address complex systems challenges.

ENGINEERING EXPERIENCE

Technip Energies| *Boston, MA* January 2024 – June 2025
Process Engineering Co-op

- Created programs in Python and SQL for process automation and improved efficiency; used feedback from senior engineers to tailor programs for seamless workflow
- Reviewed and edited various technical documents such as P&IDs, PFDs, BODs, and water balances for critical client deliverables
- Analyzed, evaluated, and improved calculations on process equipment such as drums, distillation columns, and pumps, utilizing Excel, KG Tower, PD Plus, and other process simulation software

24M Technologies | *Cambridge, MA* January 2023 – August 2023
Electrochemical Engineering Co-op

- Collaborated with senior engineers on the development of traditional silicon anode technology by screening different silicon materials and optimizing slurry formulations for quality and performance
- Evaluated silicon, graphite, and carbon materials using analytical techniques and half-cell testing; presented findings to partner companies and the 24M Advanced R&D team
- Constructed and tested traditional and 'semi-solid' style batteries and investigated the effects of formulation, electrolyte, and test protocol on electrochemical metrics
- Developed custom python scripts for processing of battery performance data

Koppes LNNR Lab | *Northeastern University* September 2021 – December 2022
Lab Assistant

- Built skills in cell culture, neuron imaging, and recording neuron data from multielectrode arrays
- Conducted independent project fabricating and analyzing organ-on-chips with custom meniscus-forming layer for dual-hydrogel chip
- Synthesized hydrogels and cultured neurons for testing of neuron spike data

EDUCATION

***Northeastern University**, Boston, MA*
Bachelor of Science in Chemical Engineering May 2025
Honors: Summa Cum Laude, University Honors Program, Shillman Award Recipient GPA: 3.98
Activities: COE Peer Mentor, Tau Beta Pi, Chem-E-Car, PEAK Research Fellowships, Intramural Sports

SKILLS

Software/Programming: Python, SQL, Excel VBA, Simulink, Minitab, JMP, Microsoft Office, Aspen Plus, Tableau, AutoCAD, SolidWorks, Adobe Illustrator
Laboratory/Electrochemical: SEM, EDS, PSA, Pycnometry, Rheology, Conductivity, Battery Assembly, Rate Testing, EIS, Microscopy, Fluorescence Imaging, Live-Dead Quantification, Neuron Spike Train Analysis