Cade Ammann

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Education

Cal Poly Pomona – BS in **Chemical Engineering** | Summa Cum Laude (**3.8 GPA**) May 2024
Minor in Materials Engineering | Minor in Music

Skills

Project Management: Project planning, cross-functional coordination, root cause analysis, Gantt charts, Trello, JIRA
Chemical Engineering: PFD, P&ID, mass and energy balances, test design, fuel specification, process operation, process optimization, process simulation
Quality/Design Engineering: Microsoft Visio, Solidworks, geometric dimensioning and tolerancing
Analysis: Microsoft Excel, LLM prompt engineering, MATLAB, COMSOL, ANSYS, HYSYS, AVEVA PRO II

Experience

Junior Process Engineer, California Recyclers – Fontana, CA Feb 2023 – June 2025

- Led design and testing of a $3 million novel fuel process & technology, yielding a 40% product capacity increase
- Conducted field tests, optimized process conditions, designed experiments and processes, improving oil product quality for a novel process by 90% according to ASTM standard, as measured by color, and change in wax content and density
- Developed plastic pyrolysis reaction mechanism through rigorous mathematics, allowing process prediction capability
- Coordinated process controls and data architecture overhaul by merging excel sheets and PLC software with JavaScript programs to streamline data processing, and designed UI to improve operational safety and efficiency by 40%
- Authored gap analysis of a 20x production gap by detailing 5 key shortcomings, and presented it to executives

Metallurgical Technician, The Lab - Materials Testing – Rancho Cucamonga, CA Dec 2021 – May 2022

- Used standards (ASTM, SAE) and operated instruments to perform tests on fasteners (decarburization, composition)
- Completed over 100 job reports in 6 months (per archive) developing a 30% increase to test turnaround time
- Addressed streaks of high test volume with proper scheduling, ensuring timely completion and customer satisfaction

Projects

Large Scale Ethylene Plant Simulation

- Elected by 30 person team as assistant manager for a project to simulate an 800,000 tonne/yr ethylene plant
- Conducted virtual plant surveys, analyzing and planning based on geography and resource proximity
- Performed financial analysis of the entire project, including the estimated time for return on investment
- Maintained a Gantt chart, helping the team to meet project goals and stay on track with a timeline

Catalytic Plastic Pyrolysis Study

- Collaborated with a small team on material selection, sourcing and assembly of lab-scale plastic pyrolysis reactor
- Performed three, 8-hour experiments - thermal pyrolysis, plain zeolite catalyst, and nickel-tungsten doped zeolite
- Analyzed product results from mass spectrometer, finding strong similarities to crude oil, diesel fuel, and gasoline
- Co-authored research paper and converted to a PowerPoint, presenting our conclusions to industry representatives

Salton Sea Carbon Sequestration Project

- Conducted broad research, performed conversion calculations, and mapped equipment, designed to sequester 2 million tons of carbon from the air per year at the Salton Sea
- Contributed to manuscript, communicating deliverables to show feasibility, and submitted to XPRIZE Carbon Removal

Hobbies

- Technically skilled bassist and aspiring vocalist
- Jazz quartet bandleader and jazz enthusiast
- Rock climbing, strength training, hiking, traveling