Joshua Rennell

jprennel@mtu.edu | (517) 936-6583 | LinkedIn.com/in/JoshuaRennell | 7780 W. Michigan Ave., Parma, MI 49269

Summary

Ambitious Process Engineer with a demonstrated history of process optimization, capital cost reduction, and statistical analysis. Graduated from Michigan Technological University in 2018 with a Bachelor's Degree in Chemical Engineering.

Computer & Technical Skills

- Python
- Excel / VBA
- MySQL
- Tableau
- Minitab
- UniSim Design
- G Suite
- Microsoft Office

Industry Experience

Process Design & Technical Sales Support | Aqua-Aerobic Systems Inc. | May 2018 – Feb. 2020

- Generated over 750 process design reports with equipment recommendations and cost estimates
- Discovered widespread error which underestimated equipment costs by $1.5 million
- Trained new engineers on system design and optimization, reducing onboarding time by 50%
- Provided technical expertise to customers retrofitting into existing footprints and/or hydraulic profiles

Product Management | Aqua-Aerobic Systems Inc. | Oct. 2018 – Feb. 2020

- Decreased AquaStorm® pilot report lead time 80% by automating report graphs and statistical analysis
- Automated AquaPASS® phase separator basin sizing and geometry in VBA, reducing design time by 92%
- Applied mass balance to AquaNereda® design model, reducing footprint and pump requirements up to 10%

Lean Manufacturing | Michigan Automotive Compressor Inc. | June 2017 – Aug. 2017

- Provided training for new associates to demonstrate assembly and testing of automotive air compressors
- Monitored product quality through final packaging with on-line testing at various operating conditions
- Utilized Kaizen & Kanban manufacturing techniques to increase hourly production by 22%

Engineering Project Experience

Michigan Technological University | Unit Operations Lab | Jan. 2018 – May 2018

Project Objective: Synthesized silicone polymer (PDMS) in a batch reactor to meet customer specifications

- Generated material balances to determine reagent and catalyst requirements
- Monitored reaction conditions utilizing Delta V process control software
- Reviewed customer requirements and calculated the changes necessary to meet the specifications
- Verified the successful synthesis of PDMS by conducting Gage R&R statistical analysis

Michigan Technological University | Process Analysis & Design | Sep. 2017 – Dec. 2017

Project Objective: Simulated and optimized a hydrocarbon petroleum refinery

- Simulated current operations with Honeywell's UniSim Design process modeling software
- Implemented improvements in simulation to determine optimization potential
- Optimized refinery resulted in a 32% increase on total annual profit to $4.4 million

Education

Michigan Technological University — Houghton, MI
BS Chemical Engineering — **May 2018**