

Ruturaj Harishchandre

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EDUCATION

Master of Science in Chemical Engineering August 2022 - Present
University of Florida, Gainesville, FL CGPA: 3.38/4.0

Relevant Coursework: Advanced Chemical and Biological Process Lab, Advanced Mathematics, Transport Phenomena, Chemical engineering kinetics, Reactor Design and Optimization, Semiconductor Device Fabrication Lab

Bachelor of Engineering in Chemical Engineering August 2016 - May 2020
Savitribai Phule Pune University, Pune, India CGPA: 7.01/10.0

Relevant Coursework: Mass Transfer, Heat Transfer, Thermodynamics, Chemical Reaction Engineering, Process Dynamics and Control, Process Modeling and Simulation

SKILLS

Technical: Process Engineering, Process Simulation, Technical Documentation, P&ID, Mass and Energy Balance, Unit Operations, SEM

Software: Aspen HYSYS, Aspen Plus, Aspen Mtell, OmegaLand, AutoCAD, SQL, MS Excel VBA, MATLAB, Microsoft Office

PROFESSIONAL EXPERIENCE

Process Engineering Intern October 2020 - January 2021
Equinox Software and Services Pvt. Ltd., Pune, India

- Performed process engineering calculations such as line sizing, hydraulics and created P&ID for various processes.
- Developed Refrigeration cycle for natural gas processing using Aspen HYSYS in both steady state and dynamic state.
- Constructed plant layout using OTS to analyze control logic and tune different process instruments.
- Formulated preventive maintenance model for rotatory equipment using IIOT.
- Generated material balance and process calculations in Excel sheets using VBA for various dynamic processes.
- Evaluated large data sets of plant parameters to understand process efficiency utilizing SQL.

In-plant Trainee Jun 2018 - July 2018
Rashtriya Chemicals and Fertilizers Limited, India

- Worked at the Ammonia plant, which manufactured 1045 MTPD of Ammonia by Haber-Bosch process.
- Involved in performing mass and energy balance across various sections of the Ammonia plant.
- Performed troubleshooting of various process equipment such as pump, compressor, evaporator and heat exchanger.

ACADEMIC PROJECTS

Green Propellant August 2019 - March 2020

- Detailed analysis in terms of manufacturing, for a potential green fuel Hydroxylammonium Nitrate (HAN) was done to curb the emissions of 5.6% caused by launching more than 100 rockets annually.
- Synthesized HAN using hydroxylamine sulfate (HAS) with sodium hydroxide in alcohol at varying concentrations and temperatures to develop a cost-effective process.
- Adapted a different route to produce HAN, here, metal salt like chromium nitrate was reacted with HAS at varying parameters. The metal salt route was found to be most effective for large-scale production in terms of cost and energy efficiency.

ACTIVITIES AND CERTIFICATIONS

- Participated in COMSOL CFD Workshop and Chemical Process Safety Workshop at AIChE Regional Student Conference.
- Organized a seminar on Recent Advances in Separation Technology.
- Attended the Workplace Fire Safety Induction organized by The Knight of Safety Academy and IACS.
- Member of organizing committee of college cultural fest, participated and secured prizes in cultural and technical competitions.