

# PRAGATHI PRABHAKARAN

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A qualified Engineer seeking a challenging and rewarding opportunity with an organization of repute which recognizes and utilizes the true potential while providing equal opportunities for upgrading the technical skills in the interest of the organization and self.

## EDUCATION

JULY 2019 - MAY 2021

### **M.TECH IN CHEMICAL ENGINEERING SPZ IN PROCESS DESIGN ENGINEERING**, UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

- Project Work - **OPTIMIZATION OF REFINERY HYDROGEN NETWORK**
  - Oil refinery consumes hydrogen in large amounts for removing sulfur and nitrogen compounds and producing lighter fuels. Refiners are interested in the lower-cost alternative new form of the hydrogen distribution network.
  - As a demand for hydrogen grows, the optimization of hydrogen refinery system is more important to optimize the economics, to improve the design of individual production unit, consumption unit, importing hydrogen from suppliers, construction of new hydrogen purifiers altogether creating a better hydrogen distribution network in refinery.
  - So to optimize the network, **Ant- Colony Optimization**, a metaheuristic method of optimization is used.
  - **Main Objective - Minimization of Total annual cost (sum of the operational costs and the annualized capital costs)**
  - Software Used - **OCTAVE** (high-level programming language, mostly used for numerical computations) helps in solving linear and nonlinear problems numerically.
- GPA - 8.64/10

AUGUST 2015 - APRIL 2019

### **B.TECH IN CHEMICAL ENGINEERING**, ADHIYAMAAN COLLEGE OF ENGINEERING

- Project Work - **MECHANISM OF ATOMIZATION OF FAN SPRAY NOZZLE**
  - The process of atomization often involves ejecting thin liquid sheets at high speeds from a nozzle that causes the sheet to flap violently and breakup into fine droplets.
  - **Atomization** plays an important role in many industrial applications such as spray combustion, spray painting, agricultural sprays, ink-jet painting, powdered milk processing, etc.

- This project deals with the visualization of liquid breakup, fundamentals of liquid atomization and the techniques for spray visualization. **Spray behavior** is analyzed with focus on primary breakup, which plays a major role in the whole process of spray formation and spray characteristic.
- Visualization technique - Front lighting and Back lighting
- **Fan spray nozzle** - Diameter-0.079 inch and spray angle-95°
- Camera- Photron Fastcam which is connected to the computer for obtaining the images
- Then, the images were stacked in **ImageJ software** which can display, edit, process and save images
- Result- There is a gradual increase in the radius of liquid sheets as flow rate increases and **weber number** is a changing factor up to a particular flowrate, where sheet is smooth and stable.

➤ GPA- 8.36/10

## SOFT SKILLS

- **Interpersonal skills** (ability to work under pressure, adaptability, Self-motivated, Creativity, Responsibility)
- **Communication** (Active listening, Openness, Friendliness, Negotiating, Confidence)
- **Critical thinking**
- **Problem Solving Skills** (Analyzing, Drawing conclusions)
- **Team working skills** (Listening, Decision making, Persuasive, reliability, Tolerance, Respectfulness)
- **Willing to learn new things**

## SOFTWARE

- MATLAB , SQL
- MS Office (**PowerPoint, Excel, Word**)
- DWSIM (chemical process simulator)
- OCTAVE (numerical computations, problem solving)

## ACADEMICS/EXTRA CURRICULAR ACTIVITIES

- Visited **Mysore Sandal Soap Oil Manufacturing Industry**, Mysore to observe and understand the use of Chemical Engineering in the soap industry (2017)
- Participated in the Paper presentation on the topic of sustainable energy resources in Vivekananda College of Engineering (2017)
- Participated in personality development workshop in **Vellore Institute of Technology-VIT** (2018)
- Undergone training in the **Dale-Carnegie's "Personality Enhancement Program"** held in **University of Petroleum and Energy Studies** (2019)
- Visited Oil and Natural Gas Corporation - ONGC branch in Dehradun (2019)