Sandeep Charan Kandregula

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Education

National Institute of Technology Tiruchirappalli — Tiruchirappalli, India
Bachelor of Technology, Chemical Engineering | CGPA: 8.95/10 — *July. 2019 – May. 2023*

Sri Chaitanya Junior College — Visakhapatnam, India
12th Class | Percentage:94.5% — *July. 2016 – Mar. 2018*

Sri Chaitanya Techno School — Visakhapatnam, India
10th Class | GPA: 10/10 — *July. 2015 – Mar. 2016*

Experience

Research Intern — June. 2021 – July 2021
National Institute of Technology Tiruchirappalli — *Tiruchirappalli, India*

- Supervisor: Dr. Sourav Poddar, Post-Doctoral Fellow, Department of Chemical Engineering, National Institute of Technology Tiruchirappalli.
- The primary goal of this research is to figure out the most efficient reaction for Pyrolysis of Biomass in a batch reactor and continuous stirred tank reactor with a high oil yield rate and less pollution-causing and a comparative study of Biomass pyrolysis using Aspen Plus Software and Simulink Software.

Research Intern — June. 2021 – July 2021
Indian Institute of Petroleum and Energy — *Visakhapatnam, India*

- Supervisor: Dr. S. Rathan, Assistant Professor, Department of Mathematics, Indian Institute of Petroleum & Energy Visakhapatnam.
- Studied detailed analysis of Adam Bashforth method and Adam Moulton methods using adaptive inverse-quadratic and inverse-multi-quadratic radial basis function (RBF) interpolation technique to solve initial value problems.
- Developed consistency, convergence and stability regions of those methods.

In-Plant Trainee — 10. Jan. 2021 – 20. Jan. 2021
Bharat Heavy Electricals Limited — *Visakhapatnam, India*

- Acquired the knowledge of Major processes happening there such as Oxygen and Nitrogen Storage tanks and the production of Support devices for establishment of solar panels on water.

Chemical Process Technology Intern — Aug 2020 – Oct 2020
Indian Institute of Chemical Engineering — *Online*

- A three-month long program focused on Chemical Process Technology, where I learnt about several industrial processes from experts and authored a report on the same.

Projects

Flying IOT WebApp | *React, Amazon AWS Cloud* — Mar. 2021 – May 2021

- The flying IoT project was developed to communicate with the drone using a web application and cloud computing.
- The web app was made using React framework and Bootstrap for styling.

- The waypoints for the drone to cover were selected using the web application.

Multi UAV Coordination | *Python, Mission Planner* Aug. 2020 – Sep. 2020

- The objective is to demonstrate the use of UAS-to-UAS communication and coordination in a realistic, operational flight environment.
- Coordination among the drones is achieved by efficient communication and real-time operation.

Skills, Coursework and Interests

Modelling and Analysis: Matlab, Simulink, Aspen Plus
Languages: Python, C, JavaScript, HTML/CSS
Frameworks and Libraries: React, Scikit-Learn, Tensorflow, pandas, NumPy, Matplotlib
Developer Tools: Git, VS Code, Visual Studio, PyCharm
Engineering Coursework:
Heat Transfer | Mass Transfer | Particle Science Technology | Fluid Mechanics | Material Science Technology | Process Calculations | Water treatment technology | Thermodynamics | Chemical Technology | Engineering Mathematics | Python programming | Bioenergy | Big data analytics | Chemical Reaction Engineering | Chemical Process Equipment design | Petroleum and Petrochemical engineering
Research Interests:
Chemical Reaction Engineering | Thermodynamics | Numerical Analysis | Fluid Mechanics | Heat and Mass Transfer | Bioenergy | CFD | Data Analytics

Positions of Responsibility

Member of Tronix team, 3rd Dimension Aeromodelling Club Aug 2020 – Present

- Working as a Tronix engineer of 3rd Dimensional Aeromodelling club of NIT Trichy which primarily deals with motion in the Third dimension-the principles of defying gravity and achieving flight.
- As a part of Tronix Team, we work on image processing, Communication of UAVs (Drones), Hardware of UAVs (Drones), Path Planning.

Designer, Design team, Alchemy Nov 2020 – Present

- Worked as a Designer of Design Team of Alchemy, the annual National Technical Symposium particular to Chemical Engineering conducted by the Chemical Engineering Association of NIT Trichy.
- Hands-on touch with designing tools such as filmora and photoshop.

Languages Known

- **English** (Professional Working Proficiency)
- **Telugu** (Native Proficiency)

Certifications and Courses

- Pursuing **Minor** in **Management** from DoMS (Department of Management Studies), NIT Trichy.
- Successfully Completed a **Machine learning** Training offered by Internshala.
- Successfully Completed a Coursera course on **Neural Networks and Deep Learning** offered by DeepLearning.ai
- Successfully Completed a Coursera course on **Using Python to access Web Data** offered by University of Michigan
- Successfully Completed a Coursera course on **Python Data Structures** offered by University of Michigan