YAMINI KANDREGULA

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EDUCATION

National Institute of Technology Tiruchirappalli   Tamil Nadu, IN

Bachelor of Technology in Chemical Engineering, CGPA: 8.59/10   *2019 - 2023*

Sri Chaitanya Junior College   Andhra Pradesh, IN

BIEAP Courses: Physics, Chemistry, Maths, English, CGPA: 9.63/10   *2017 - 2019*

Good Shepherd School   Andhra Pradesh, IN

CICSE PERCENTAGE: 89.93%   *2016 - 2017*

EXPERIENCE

Research Intern | *Indian Institute of Technology Guwahati*   Aug 2021 - Present | Guwahati, IN

- Supervisor: Dr. Nageswara Rao Peela, Associate Professor, Department of Chemical Engineering, Indian Institute of Technology Guwahati.

Research Intern | *Indian Institute of Technology Kanpur*   May 2021 - July 2021 | Kanpur, IN

- Supervisor: Dr. Anikesh Pala, Assistant Professor, Department of Mechanical Engineering, Indian Institute of Technology Kanpur.

- The primary goal of this study is to perform docking of various drugs with SARS-COV-2 6YB7 protease molecule using Molecular Dynamics simulations applications such as VMD, GROMACS, CHARMM-GUI, and filtering the drugs is done using Machine Learning.

- Finally, we made a comparative study of docking scores obtained using machine learning and molecular dynamics simulations.

Summer Intern | *Indian Institute of Petroleum and Energy*   May 2021 - July 2021 | Vizag, IN

- Supervisor: Dr. Venkata Reddy, Assistant Professor, Department of Chemical Engineering, Indian Institute of Petroleum and Energy.

- Developed four adversarial machine learning models based on neural networks and examined the models using the WADI dataset by adding malicious noise to the inputs (Adversarial Attacks on Water Distribution Systems).

- Proposed four defense models for the four machine learning models to overcome the adversarial attacks.

Research Intern | *National Institute of Technology Tiruchirappalli*   June 2021 - July 2021 | Trichy, IN

- Supervisor: Dr. Sourav Poddar, Post-Doctoral Fellow, Department of Chemical Engineering, National Institute of Technology Tiruchirappalli.

- The major purpose of this study is to find the most efficient reaction for pyrolysis of biomass in batch and continuous stirred tank reactors with high oil production rates.

- Also performed a Provisional Investigation of Biomass Pyrolysis using Aspen Plus and Simulink software.

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

SKILLS, COURSEWORK, AND INTERESTS

Languages: Python, Java, JavaScript, HTML/CSS

Frameworks: Web Dev, TensorFlow

Specialization: Machine Learning, Deep Learning

Modeling and Analysis: MATLAB - SIMULINK, Excel VBA, ASPEN PLUS

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 | Machine Learning | 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 | Water Distribution Systems | CFD | Data Analytics | Molecular Dynamics

EXTRACURRICULAR ACTIVITIES

- **Deputy Manager, Design Team, Akshara**
  - Working as a Deputy Manager of the Design Team of Akshara since august 2020. Akshara is an official Telugu literature club of NIT Trichy, conducted various activities involving Telugu culture. As a part of the design team, I have done various video editing and poster designing for Akshara.

- **Designer, Design Team, Alchemy**
  - Working as a Poster designer of the Design Team of Alchemy since November 2019. Alchemy is the annual National Technical Symposium in Chemical Engineering conducted by the Chemical Engineering Association of NIT Trichy.

- **Coordinator, Logistic and Public Relations, Pragyan**
  - Worked as a Manager of Logistics and Public Relations of Pragyan'20, the student-run techno-managerial organization of NIT Trichy, which is bestowed with ISO 9001:2015 certification for Quality Management Systems.

- **Languages known**: English *(professional working proficiency)*, Telugu *(Native proficiency)*, Hindi *(professional working proficiency)*

- Pursuing a **Minor** in **Management** from DoMS (Department of Management Studies), NIT Trichy.

- Awarded an **NSS Medal** in 2020 for the India Book of Records - It was the largest awareness program of NSS (NIT TRICHY) on plastic hazards, which reached the India book of records.

- **Team Player** in NIT Trichy Kho-Kho Girls Team.