



Manas Poddar

Roll No.:CH21B026

B.Tech - Chemical Engineering

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech	Indian Institute of Technology, Tirupati	8.35	2021-Present
Senior Secondary	UP Board	82.4%	2021
Secondary	ICSE Board	93.0%	2019

EXPERIENCE

- Lab of Functional Nanostructures, IISc Bangalore** June 2024 - July 2024
Research Intern, under Prof. Venugopal Santhanam Bengaluru
 - Successfully synthesized a robust silver-based nanostructured catalyst using an *in situ* method, increasing the catalytic activity by **10 times** compared to the process without a catalyst.
 - The manufactured catalyst demonstrated repeatability without deterioration even after 5 continuous runs.
- PSE Lab, IIT Tirupati** Sept 2023 - Present
Student Researcher, under Prof. Nabil M Tirupati, India
 - Modeled the **William Otto reactor dynamics** in real-time using the **finite element method** and created a **DDPG model** with Gymnasium and Stable Baseline to track set-points from any initial state.
 - Currently working on a **Catalytic Cracker unit**, modeling the reactor using Python with appropriate **numerical techniques**.

PROJECTS

- Nano structure based Silver catalyst** Jun. 2024 - July. 2024
Under Prof. Venugopal Santhanam, IISc Bangalore Reports
 - This was the internship project which involved manufacturing of silver based nano catalyst to enhance the rate of reaction.
 - Ink cartridge along with film development process was used, and many different configuration was made, out of which one increase of rate constant **10 times** the original.
- Safe Discharge of Hot Ash in Fluidized Bed Combustor** Oct. 2022 - Nov. 2022
Under Prof. Anki Reddy Reports
 - This was a course project(APE-2), We successfully solved all the problems, estimating total time, suggesting the frequency of discharge, continuous/discontinuous discharge, etc.
 - Lump analysis was used to conduct analysis and solve the problem
- My Buddy |  Live** March. 2024 - April. 2024
Google AI Hackathon Project Github
 - Developed an AI-powered web application that facilitates **personalized, empathetic conversations** using Gemini LLM, enabling users to create chat environments tailored to their emotional needs.
 - Integrated prompt engineering to deliver unique responses in various personas (friend, parent, counselor), providing comfort and emotional support.

TECHNICAL SKILLS

- Programming:** C/C++, Python, JavaScript, TypeScript, SQL.
- Tools:** Matlab, Aspen Plus, Onshape, .
- Software Development:** React, Next.js, Tailwind CSS, React Native, MongoDB, Node.js, Express
- DevOps and Cloud:** Git, Docker, GCP(basic), AWS(basic).

KEY COURSES TAKEN

- Chemical:** Material and Energy Balance, Mass transfer, Heat Transfer, Separation Process, Process Control, Process Synthesis, Electrochemical energy storage, Reaction Engineering, Process Equipment and design
- Extra:** Nanaoscience and Nanotechnology ,Responsible AI, Ethical Hacking

POSITIONS OF RESPONSIBILITY

- Tech Team**,BTC India Sept 2024 - Present
- Club Head**,Gagan Vedhi, IIT Tirupati May. 2022 - Apr. 2024
- Core Member**,Idea Square IIT Tirupati Apr. 2023 - Apr. 2024

AWARDS & ACHIEVEMENTS

- **Top Presentation** 🏆 : Our team was honored to be recognized as one of the **top three presenters** at the **Indo-Canadian Symposium**, jointly organized by Dalhousie University and the Indian Institute of Technology Tirupati. (Feb 2024)
 - **Winner - HackBells 2.0** 🏆 : Won 24 hours National level hackathon (**out of 500+ teams**) by developing a cyber security tool having 4 different kinds of scripts for threat checking (Feb 2024) .
 - **Finalist - EyeInvent** 🏆 : Got into **top 10 teams** among **different startups and teams** all over India for making an innovative model that reduces the doctor's effort (Feb 2024).
 - **Gold Medal - iGEM:** We built an app for IISER Tirupati that won them gold medal in iGEM 2023 on global level (Nov 2023).
 - **Top 10% in DeepRacer Student Nationals - July 2023** 🏆 : Received \$50 as a prize for being in the top 10% in the India Region (**out of 3000+ students**) by designing an efficient and optimized Reward Function (July 2023)
 - **Bronze Medal in Cognitive Garage - Inter IIT Tech Meet 11.0** 🏆 : Awarded Bronze Medal in Cognitive Garage Problem Statement (Easy automation of complex decision making) in Inter IIT Tech Meet 11.0 (Jan 2023 - Feb 2023)
 - **Silver Medalist - Cosmic Innovation Challenge** 🏆 : Received Silver Medal along with INR 10,000 for our innovative solution to the problem of space debris in Space Tech Summit, Shaastra, IIT Madras (Jan 2023)
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