Ramesh Boggu

2nd Year Postgraduate
Department of Chemical Engineering

Email : rameshboggu999@gmail.com
Phone : +91-7013510962

Academic Qualifications

Year	Degree	Institute	CPI/%
2022 - Present	M.Tech (Chemical Engg)	Indian Institute of Technology, Kanpur	9.17/10
2020	B.Tech (Petro-Chemical Engg)	University College of Engineering: JNTU kakinada(Autonomous)	8.45/10
2016	Intermediate	Aditya Junior College, Kakinada	97.4%
2014	SSC	Adarsha Vidyalaya EM High School, Pithapuram	9.8/10

Experience

- **Systems Engineer @ Infosys limited** (*Jan'21 - June'22*)
- I have a professional background of 1.5 years as a Systems Engineer. My journey includes:
  - Served as a Junior Developer in the Omnihub-Dev Team for a year, during which I actively contributed to the creation of the backend Omnihub server for diverse clients' needs.
  - Engaging in the training that spanned approximately 6 months, where I got knowledge of various courses such as Java, Data Structures and Algorithms (DSA), Database Management Systems (DBMS), and Omnihub-specific technologies.

Scholastic Achievements

- **Academic Excellence Award -** Acknowledged with the Academic Excellence Award for achieving a remarkable 9-pointer in the initial semester of M.Tech at IIT Kanpur.
- Secured **All India Rank 401** in **Gate 2021** out of **16705** candidates in Chemical Engineering Stream.
- Secured **Rank 3457** in Andhra Pradesh **EAMCET** out of **1.98 lakh** candidates.

Project

Master Thesis: Analysis of VEGF Cell Migration Pathway of Angiogenesis. (*March'23 - Ongoing*)

Thesis Supervisor: Prof. Raghvendra Singh, Assistant Professor, Department of Chemical Engineering.

- The main goal of this thesis is to investigate the effects of altering the rate constants of reactions that involve different proteins on the dynamics of the **Cell Migration** signaling pathway.
- Formulated the bio-chemical reactions of the proteins involved in the pathway using **Michaelis-Menten kinetics**.
- A mathematical model was developed using **Matlab** to capture the behavior of the Cell Migration pathway. The **ODE45** solver was utilized to solve the rate equations,generated of concentration profiles over time.
- Performed **Sensitivity Analysis** on the model to know how the final protein which is responsible for **Cell Migration** influenced by the rate constants.

B Tech Project: Production of Biodegradable plastics from Tapioca. (*June'19-July'20*)

- Prepared **Cassava Starch** from **Cassava Tubers**.
- Prepared the biodegradable plastic by mixing the starch with **Vinegar Solution** and **Glycerol**.
- By changing the proportions of **Vinegar Solution** and **Glycerol**, prepared different samples of plastic to compare the biodegradability.
- Also performed material and energy balance by scaling up the experimental data to industrial scale.

Internship

- **GVK Bio Sciences - Visakhapatnam:** (*May'19 - June'20*)
  - Engaged in a comprehensive study of the process flow diagram and the diverse unit operations integral to the Batch process within the plant.
  - Conducted an in-depth analysis of equipment functionality, including heat ex-changers and dryers. Additionally, gained insights into the operational intricacies of the Research and Development (R&D) department's procedures.

Self Projects

Movie Recommendation System | Python, Machine Learning(Unsupervised Learning) *(Aug'22)*

- Created a movie recommendation system focused on suggesting movies within similar genres.
- Used content-based recommendation to analyze the attributes of movies and compare them to user preferences to make recommendations.
- Used **Cosine Similarity** to get the similarity score of 4800+ movies in the dataset.

Customer Segregation | Python, Machine Learning(Unsupervised Learning) *(Aug'22)*

- Classified the customer data on the basis of **Annual income** and **Spending score**.
- Identified the optimum number of clusters for this particular case from **Elbow Method** of plotting the WCSS vs no. of clusters.
- Implemented **K-Means clustering** with the optimum number of clusters.

Credit Card Fraud Detection| Python, Machine Learning(Supervised Learning) *(June'22)*

- To build an ML model which can detect the authenticity of a credit card transactions.
- Trained the model using undersampled data as the dataset was imbalanced.
- Implemented **Logistic Regression** and the model performed with an accuracy score of **0.9428** on Training data and of **0.9289** on Testing data .

Breast Cancer Classification| Python, Machine Learning(Supervised Learning) *(Feb'22)*

-
-
-

Portfolio | HTML,CSS, JavaScript *(July'22)*

- Designed a user-friendly personal portfolio website with details like education, experience and skills.
- Incorporated dynamic elements like a responsive Google Sheet integration for seamless data collection from the contact form.
- Implemented other interactive components, such as a downloadable CV feature to enhance user engagement and accessibility.

Tic-Tac-Toe| HTML,CSS, JavaScript *(June'22)*

-
-
-

QR Code Generator | HTML, CSS, JavaScript *(July'22)*

- Built a Qr code generator application that can generate a Qr-code for the URL given as input.
- Obtain different sizes of Qr-code images based on their requirement.
- Download QR code option downloads the Qr-code generated for the URL.

finlatics project| Ms-Excel, PowerBI, MySQL *(Feb'22)*

-
-
-

Bank Management System Python, HTML, CSS, JavaScript *(Feb'22)*

-
-
-

Positions of Responsibility

- **Teaching Assistant @ IIT Kanpur** Evaluated answer scripts, designed assignments and resolved students' queries for the course Mass Transfer Operations.
- **Membership Coordinator of Federation of Indian Petroleum Institute student chapter @ UCEK, JNTUK (2019-20)** : Organized events to make new students join the student chapter by providing information about the chapter's goals and activities for the year 2019-2020.
- **Secretary for Career Development Wing in Academics and Career Council, IIT Kanpur** *(Jun'23 - ongoing)*

Skills

- **Programming**
  - **Proficient:** Python, SQL.
  - **Familiar:** Java, JavaScript.
  - **Web:** HTML, CSS.
  - **Utilities:** Matlab, PowerBI, Ms-Excel.
- **Libraries :** Pandas, Scikit-learn, Matplotlib, Numpy, Seaborn .

Relevant Courses and Certifications

Advanced Chemical Reaction Engineering.	Advanced Transport Phenomena.	Introduction to Systems Biology
Mathematical Methods in Chemical Engg.	Numerical Methods in Chemical Engg.	Heat Transfer.
SQL for Data Science.*	Programming for Everybody(Python).*	Supervised Machine Learning.*

(* Non-Core Online Courses with Certification)

Extra-Curricular Activities

- Champions of Freshers' Inferno'22 cricket Tournament and also won the best bowler of the tournament.
- Guided 10 freshers as their **Student Guide** - provided academic help, helped them adapt to the new college environment in M Tech.