Pranshu Dixit

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OBJECTIVE

Having a Dynamic Personality with the exceptional problem-solving ability and intrigued by immense possibilities in Chem-E domain, seeking a role with a reputable company to utilize my skills and creativity, in making a valuable contribution to the organization, while shaping myself into an adroit engineer.

Interests	Modelling and Simulations, Heat Pipes, Data Interpretations, Hydrates, Machine Learning Applications in Chemical Engineering, Neural Networks, Process Control

Examination	University	Institute	Year	CPI/%
Graduation	Rajiv Gandhi Institute of Petroleum Technology	Rajiv Gandhi Institute of Petroleum Technology	2021	8.88* (5^{th} Rank)
Intermediate/+2	C.B.S.E	Amity International School Vasundhara Sector 6	2016	90%(PCM)
Matriculation	C.B.S.E	Amity International School Vasundhara Sector 6	2014	8.4/10

**Till 5^{th} semester*

INTERNSHIP /ACADEMIC PROJECTS

Summer Internship

Activation Energy Calculation and Thermo-Kinetic Analysis with Artificial Neural Networks

Guide : **Prof Shishir Sinha** | Chemical Engineering | IIT Roorkee

- A pursuit was made to estimate the degradation of a sample under different linear heating rate using ANN model.
- After fixing the cardinal structure of the network, optimization studies were carried out to determine the optimal configuration , achieved an accuracy of level 99% for given sample
- Activation Energy was calculated using predicted data and TGA data and it was found less than 5% variation

Projects Undertaken

Evaluation of Activation Energy Using Nonlinear, Iterative and Traditional Isoconversional method

Guide: **Prof Shishir Sinha** | *Chemical Engineering* | *IIT Roorkee*

- Conceptualized and developed a prototype to facilitate calculation of Activation energy using a Python Program of any sample based on TGA Analysis
- Activation energy was determined utilizing advanced integral and differential Isoconversional strategies of Kans Grass Fiber

Modelling of Vanadium Redox Flow Battery *

Guide: **Asst. Prof Milan Kumar** | *Chemical Engineering* | *RGIPT*

- Currently analysis the effect of Migration of Vanadium Ions through Membrane
- Working on Mass transfer aspect of Vanadium ions and trying to optimize the life cycle of battery's life

Prediction of Hydrate Formation in Pipe

Guide: **Asso. Prof Umaprasana Ojha**| *RGIPT*

- Developed in-house software in MS-Excel which predicts the formation of hydrate in pipe for given pressure and temperature.
- Also provides an approximate amount of Inhibitor flow rate, which helps in reducing the risk of problems caused by hydrates in gas production systems, such as line blockages and plugs.
- Developing a neural network based tool for prediction of Hydrate Formation**(Currently working)*

Utilizing Artificial Neural Networks for solving ODE

- A Network was developed and using equations initial and boundary condition, cardinal structure was optimized using unconstrained gradient optimization.
- Equations which were solved traditionally using discretization of spatial domain relying on heavy computational power can now be solved using a trained network

Modelling and Visualization of Water Diffusion of Treated and Untreated Polymers

- Modelling of diffusion of water using Flick's Equation
- Visualization was done using graphical representation of data in a matrix
- Generated Data was validated using in Lab experiment.

Determination of Heat Transfer Coefficient in Heat Pipes using Water as Coolant

- Boiling Heat Transfer coefficient was determined considering various variables involved in an experiments
- Correlation between different variables was visualized using different plots

Effect of boundary layer thickness for various ranges of fluid at different temperatures

- Utilizing distinctive condition and equations proposed in literature for boundary layer thickness
- An Interactive prototype in MS Excel was developed using VBA programming which helped in visualizing how inherent properties of fluid and temperature dictates boundary layer thickness on a flat plate.

*****_ongoing Projects_

AWARDS AND ACHIEVEMENTS

- Granted Chevron-Jeet Bindra Merit Scholarships-2019-20
- Qualified JEE Advanced 2017 with an All India Rank of 15K(Approximate)
- Jenesys 2.0, Selected for Student Exchange Program, Japan
- Selected among TOP 10 Students for Academia Interface program at, IOCL Allahabad Terminal

TECHNICAL SKILLS

Software	Origin, AutoCAD, Photoshop, MS Excel(Advance), MSWord, DWSIM
Programing	C, Python, VBA Programming
Languages	English, Hindi, Japanese

POSITION OF RESPONSIBILITY

President
AIChE Student Chapter *(July 2019-Present)*

General Secretary
AIChE Student Chapter *(July 2019-July 2020)*

Even Management ,Co-Head
AIChE Student Chapter *(July,2018-July,2019)*

Placement –Co-ordinator
Chemical Engineering Department *(July 2019-Present)*

Member of Department of Undergraduate Committee *(July 2019-Present)*
Chemical Engineering Department *(July 2019-Present)*

Teaching Assistant
Chemistry –I & II, (July 2019-March 2020)

Workshop/Conferences

- Selected and Presented an Oral Paper presentation on "*USE OF ISO-CONVERSIONAL METHODS FOR KINETICS OF THERMAL DEGRADATION OF POLYMER: APPLICATION IN POLYMERCOMPOSITES*" at AIChE Regional Student Conference.
- Attended a Workshop on "Data Science" Organized by Science and Technical Committee during Winter School
- Attended a Workshop on "Troubleshooting process Operations and Root Cause Analysis