Piyush Kumar Kumawat

Jaipur, Rajasthan-302012, India

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Education

M.Tech by Research, Chemical Engineering — January 2020-Present
Indian Institute of Technology Patna
Bihta, Patna, Bihar

Bachelor of Engineering, Chemical Engineering — Graduated, July 2018
Thapar Institute of Engineering and Technology (TIET)
Patiala, Punjab, India

Experiences

Indian Institute of Technology, Patna
Junior Research Fellow
Process System and Engineering Lab, Department of Chemical and Biochemical Engineering (July 2019-Present)
Supervisor- Dr. Nitin Dutt Chaturvedi, Assistant Professor and Head, Dept. of Chemical and Biochemical Engineering, IIT-Patna
Project – Planning of industries to minimize carbon emission and energy consumption
Grant- *DST-SERB, India*

Working on a DST-SERB sponsored project as a JRF to optimize real life problem related to carbon emission, energy consumption, production cost and to plan production of industries to meet the forecasted demand

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Essar Oil Ltd.
Jamnagar, Gujarat
Trainee (July 2017 - December 2017)

Project - Improvement in pre-heat temperature of coke drums at Delayed Coker Unit

A heat exchanger was designed using HTRI xchanger suite and kern method to improve pre heat temperature at Delayed Coker Unit (DCU) plant by simulation and observing plant. In this study it was found that the plant is working fully automatically with advance technologies being already used here at Delayed Coker Unit (DCU), however some modifications can be still done to increase productivity and also make the operation even safer and autonomous. Outcomes of project suggested some changes that can be done along with the cost of implementing the same and how it would profit the company in the long run.

Shree Cement Ltd.
Beawar, Rajasthan
Summer Intern (June 2016 - July 2016)

Worked as summer intern in the quality maintenance department of industry, learned and analyzed the production of cement and maintaining their quality.

Achievements

- Cleared GATE (Graduate Academic Test in Engineering)-2019, Chemical Engineering.
- Academic Scholarship 2014-15 for holding the second position in the batch on the basis of JEE score, TIET, Patiala.
- Cleared Joined Entrance Exam-Mains, ranked in the top 2% of more than 1.5 million aspirants across India in2014.

Technical Skills

- GAMS, Python, MATLAB
- Preparing and presenting reports on the progress of research for technical and non-technical audiences.
- Staying current with professional publications.
- Collaborating with the cross-functional research team.

Publications

Piyush Kumar Kumawat, Nitin Dutt Chaturvedi (2021), **Robust resource targeting in continuous and batch process,** Clean Technologies and Environmental Policy, 1-16.

Piyush Kumar Kumawat, Nitin Dutt Chaturvedi (2021), **Multi-objective optimization for sustainable production planning,** Environmental Progress & Sustainable Energy, Accepted.

Piyush Kumar Kumawat, Nitin Dutt Chaturvedi (2021), **A Data-Driven Approach to Plan Electricity Production from Diesel Engines with Constrained Parameters.** Computer Aided Process Engineering

Nitin Dutt Chaturvedi, *Piyush Kumar Kumawat* (2021), **Energy and Carbon-Constrained Production Planning with Parametric Uncertainty,** IFAC Papers Online.

Piyush Kumar Kumawat, Nitin Dutt Chaturvedi (2020), **Robust targeting of resource requirement in a continuous water network,** Chemical Engineering Transactions, Volume 81, Pages: 1003–1008.

Akash Das, *Piyush Kumar Kumawat*, Nitin Dutt Chaturvedi (2021) **A Study to Target Energy Consumption in Wastewater Treatment Plant using Machine Learning Algorithms.** Computer Aided Process Engineering.

Neha Rathi, Jai Prakash Kushwaha, Neetu Singh, Sehaspreet K. Toor, Nikhil Rajani, *Piyush Kumar Kumawat* (2020) **Adsorptive interaction of ortho-phenylenediamine with commercial activated carbon in presence of Indole and vice versa: synergistic/antagonistic evaluation.** Environment, Development and Sustainability, Volume 23, Pages: 2172–2189.

Paramjit Kaur, Nikhil Rajani, *Piyush Kumar Kumawat*, Neetu Singh, Jai Prakash Kushwaha (2018) **Performance and mechanism of dye extraction from aqueous solution using synthesized deep eutectic solvents.** Colloids and Surfaces A: Physicochemical and Engineering Aspects 539:85–91. https://doi.org/10.1016/j.colsurfa.2017.12.013

International Conferences

Piyush Kumar Kumawat, Nitin Dutt Chaturvedi. **Energy and Carbon-Constrained Production Planning with Parametric Uncertainties**, 11th IFAC SYMPOSIUM on Advanced Control of Chemical Processes: ADCHEM-2021, 13-16 June 2020, Venice, Italy. (Co-author in presented paper)

Piyush Kumar Kumawat, Nitin Dutt Chaturvedi. **A Data-Driven Approach to Plan Electricity Production from Diesel Engines with Constrained Parameters**, 31st European Symposium On Computer Aided Process Engineering: ESCAPE-31, 17-21 August 2020, Istanbul, Turkey. (Poster Presentation)

Piyush Kumar Kumawat, Nitin Dutt Chaturvedi. **Robust targeting of resource requirement in a continuous water network**, 23rd Conference of Process Integration, Modeling and Optimization for Energy Saving and Pollution Reduction: PRES- 2020 17-21 August 2020, Xi'an, China. (Oral Presentation)

Personal Information

Fathers Name: Mr. Hemant Kumar
Date of Birth: September 24, 1995
Gender: Male

Marital Status: Single
Nationality: Indian