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SUMMARY

Working on interesting ways to solve difficult problems. Passionate about leveraging data, science, and algorithms to fuel innovation and increase the quality of life.

EXPERIENCE

Research Scientist (Cheminformatics)

Eli Lilly Company

📅 October 2021 – Present 📍 Indianapolis, Indiana

Graduate Research Assistant (Bill Murray Fellow)

Purdue University

📅 Aug 2016 – Aug 2021 📍 West Lafayette, Indiana

- **Advisor:** Prof. Jeffrey P. Greeley
- 8 Peer-reviewed Publications | 2 open-source Python packages | 1 Online-tool
- Computationally efficient tools to model complex catalysts:
 1. Graph neural networks to encode complex reaction surfaces
 2. Genetic algorithm to generate complex multi-component models hitherto deemed challenging (in collaboration with University of Florida)
- Catalyst active-site engineering & Investigating reaction mechanism:
 1. Collaborated with experimental group to propose design rules for building better catalysts for H₂ production, propylene production, and exhaust emission control.
- Online lab-scale hazard evaluation and risk assessment platform:
 1. Tool to compile and scrutinize hazards-related information before performing experiments (in collaboration with CISTAR and Purdue Process Safety and Assurance Center)

Chemometrics & AI Intern

Dow Chemical Company

📅 June 2020 – Aug 2020 📍 Lake Jackson, Texas

- Developed a ML model for small molecular screening. Scaled-up model inference capabilities by 30-fold, increasing capability to screen potential molecules from millions to billions.
- Performed multivariate time-series analysis to detect operational anomalies and improving plant reliability & safety.

EDUCATION

Ph.D. in Chemical Engineering

Purdue University

📅 2016 – 2021 📍 West Lafayette, Indiana

Thesis: Investigation of Multi-component Catalysts Functionality Using First-principles and Machine-learning

B.E. in Chemical Engineering

Institute of Chemical Technology

📅 2012 – 2016 📍 Mumbai, India

SKILLS

Cheminformatics Drug Discovery
Machine Learning
Graph Neural Networks
Kinetic Modeling
Multivariate Analysis
Data Visualization
High-Performance Computing (GPU/CPU)
PyData Stack Git PyTorch
Web Scraping

RECENT COURSES

Deep Learning Specialization

deeplearning.ai

📅 Feb 2020 📍 Online

Data Science in ChE

Purdue University

📅 Fall 2019 📍 West Lafayette, Indiana

TEACHING

- Cheminformatics tool development mentoring
- Onboarding Graduate Students in the Research Group
- Design and Analysis of Processing Systems (ChE45000)
- Process Dynamics and Control (ChE45600)
- Graphic Designing using Adobe Photoshop (Mumbai, India)

OUTREACH

- Murdock Elementary School Teaching Volunteer
- Purdue Catalysis Center Webmaster
- CISTAR-SURF Highschool Teacher Mentor
- Purdue Cycling & Triathlon club member
- Citizens' Climate Lobby (Lafayette Chapter) volunteer