

Hao Chen

CONTACT INFORMATION	West Lafayette, IN, USA Google Scholar	Homepage	chen4433@purdue.edu Linkedin
EDUCATION	Purdue University , West Lafayette, IN Ph.D. in Chemical Engineering <ul style="list-style-type: none">• Research advisor: Dr. Can Li• Research expertise: Machine Learning and Mathematical Optimization		2022 - Present
	University of Cambridge , Cambridge, UK M.Phil. in Chemical Engineering and Biotechnology		2020 - 2021
	University of Nottingham , Nottingham, UK B.Eng. in Chemical Engineering		2016 - 2020
APPOINTMENTS	Cornell Tech, Cornell University , New York, NY <i>Visitor researcher</i>		TBD 2025 Prof. Andrea Lodi 's Lab
PUBLICATIONS	<p>[1] Chen, H., Constante-Flores, G., Li, C. Physics-informed neural networks with hard linear equality constraints. <i>Computers & Chemical Engineering</i> 189, 108764. (2024).</p> <p>[2] Chen, H., Constante-Flores, G., Li, C. Diagnosing Infeasible Optimization Problems Using Large Language Models. <i>INFOR: Information Systems and Operational Research</i>, 1–15. (2024).</p> <p>[3] Yan, Y., Shin, W.I., Chen, H. et al. A recent trend: application of graphene in catalysis. <i>Carbon Lett.</i> 31, 177–199 (2021).</p>		
CONFERENCE PRESENTATIONS	<p>Chen, H. 2024. Self-supervised Learning for Constrained Optimization with Hard Linear Constraints. Paper presented at the <i>2024 INFORMS Annual Meeting</i>, Seattle, WA</p> <p>Chen, H. 2024. GPU Accelerated Approximation Algorithm for Multi-Parametric Linear Programming. Paper presented at the <i>2024 AIChE Annual Meeting</i>, San Diego, CA</p> <p>Chen, H. 2024. Physics-Informed Neural Networks with Hard Linear Equality Constraints. Paper presented at the <i>2024 AIChE Annual Meeting</i>, San Diego, CA</p> <p>Chen, H. 2024. Diagnosing Infeasible Optimization Problems Using Large Language Models. Paper presented at the <i>2024 AIChE Annual Meeting</i>, San Diego, CA</p>		
HONORS AND AWARDS	Purdue Graduate Student Government (PGSG) Travel Grants		2024
	Graduate Student Travel Grants, School of Chemical Engineering, Purdue University		2024
	Nottingham Engineering Excellence Scheme (Top 1.0%), University of Nottingham		2019
	British Petroleum Prize, University of Nottingham		2019
	Provost's Scholarship (Top 1.5%), University of Nottingham		2018
	Dean's Scholarship (Top 10%), University of Nottingham		2017

RESEARCH MENTORING	Zachary Rasmussen (Undergraduate from Utah)	2024 - Present
	Rahul Golder (Undergraduate from IIT)	2023 - 2024
	Soumick Sarker (Undergraduate from IIT)	2023 - 2024
	Shraman Pal (Undergraduate from IIT)	2023 - 2024
PROFESSIONAL ACTIVITIES	Reviewer for <i>ACS In Focus</i>	2024
	Reviewer for <i>Reviews in Chemical Engineering</i>	2024
TEACHING EXPERIENCE	<i>Statistical Modeling and Quality Enhancement (CHE-32000), TA</i>	Fall 2024
	<i>Momentum Transfer (CHE-37700), TA</i>	Fall 2023
SKILLS	<ul style="list-style-type: none"> • Programming: Python, Julia, MATLAB • Frameworks: PyTorch, Pyomo, OMLT, NumPy, Pandas, SciPy, TensorFlow • Toolbox: Linux, vim, git 	