Satender Gunwal

Ph.D. Student, Information and Decision Sciences
University of Illinois Chicago

saten3@uic.edu   Google Scholar   GitHub   LinkedIn

BACKGROUND

Education

- **Ph.D. in Decision Sciences**, University of Illinois Chicago   2023–Present

- **B.S.–M.S. in Mathematical Sciences**, Indian Institute of Science Education and Research (IISER) Mohali   2016–2021

Experience

- **Graduate Research Assistant**, University of Illinois Chicago, Chicago, IL, USA 2023–Present

- **Research Aide**, Argonne National Laboratory, Lemont, IL, USA   2024

- **Pre-doctoral Research Associate**, Indian Institute of Management Ahmedabad, Ahmedabad, India   2021–2023

RESEARCH PAPERS

Published

- **A linear programming-based hyper local search for tuning hyperparameters (Link)**.
  Ankur Sinha, **Satender Gunwal**.
  Operations Research Letters, 61 (2025), Article 107287.
  LP formulations for bilevel hyperparameter tuning in machine learning models.

Working Papers

- **Learning-Augmented Power System Expansion Planning for Spatial Reliability**.
  Satender Gunwal, Selvaprabu Nadarajah, Todd Levin.
  In preparation for submission to *Operations Research*.

Work in Progress

- **Value-Based Best-in-Class Water Management Decisions for Hyperscale Data Centers**.
  Arman Aminipanah, Lisa Binnett, **Satender Gunwal**, Selvaprabu Nadarajah.

- **CLEAN in the Americas: Start Local, Unlock Financing, and Leverage Technology to Bridge Local Action and Global Goals**.
  Satender Gunwal, Selvaprabu Nadarajah.

- **Decision Transformers for Sparse-Reward Games**.
  Mahtab Danaee, **Satender Gunwal**, Selvaprabu Nadarajah.

TEACHING EXPERIENCE

- Teaching Assistant (Co-developer), IDS 509: Foundations of Analytics and AI for Supply Chain and Operations Management, University of Illinois Chicago (Fall 2024, Spring 2025).

- Teaching Assistant (Co-developer), IDS 594: Data-Driven Decisions for Sustainable Business, University of Illinois Chicago (Fall 2024, Spring 2025).

INVITED TALKS

Learning-Augmented Power System Expansion Planning for Spatial Reliability
- Commodity and Energy Markets Association (CEMA) Annual Meeting, Houston, TX (2025).

- INFORMS Annual Meeting (ENRE Session Chair), Atlanta, GA (2025).

CLEAN in the Americas
- Sustainable and Resilient Infrastructure (SRI) Conference, Workshop Session (2025).

SERVICE

Reviewer

- Electronic commerce research (ECR), 2023

Conference Organisation

- Session chair, Grid Modernization Investment and Operational Security - ENRE Electricity, INFORMS Annual Meeting 2025

COMPUTATIONAL SKILLS

Languages: Python, R, MATLAB, C/C++, Java, SQL
Optimization: Gurobi, CVXPY, Pyomo
ML / Data: PyTorch, NumPy, Pandas, Scikit-learn
Systems: Linux, Git, HPC environments