

MILLEND ROY

✉ millend.roy@columbia.edu | 🌐 millendroy.github.io | 🎓 Google Scholar | 🔄 MillendRoy | 📞 +1 (646) 206-1452

EDUCATION

Columbia University

Ph.D. in Operations Research

M.Phil. in Operations Research

M.S. in Operations Research

Advisor : [Prof. Agostino Capponi](#)

- GPA : 3.85/4

New York, USA

Sep 2023 - Present

Sep 2023 - Present

Sep 2023 - Aug 2024

Indian Institute of Technology - IIT, Dhanbad

B.Tech in Electrical Engineering

Advisor : [Dr. Bhukya K. Naick](#)

- GPA : 9.51/10 (*Institute Silver Medalist*)

Dhanbad, India

Jul 2017 - May 2021

WORK EXPERIENCE

Scale AI, Inc. *HFC GenAI Intern*

May 2025 - Present

Microsoft Research Lab India *SCAI Research Fellow*

Jul 2021 - Jul 2023

Microsoft Research Lab India, *Reseach Intern*

Feb 2021 - Jun 2021

Indian Institute of Technology -IIT, Dhanbad *Student Researcher*

Aug 2020 - Apr 2021

Hurrey Tech Ventures R&D, *Data Science Intern*

Apr 2020 - Sep 2020

Vardhan Consulting Engineers, *Engineering Design Intern*

Apr 2020 - May 2020

Indian Institute of Technology -IIT, Delhi *Summer Research Fellow under IASc-INSA-NASI*

May 2019 - Jul 2019

PUBLICATIONS

Preprints

* - equal contribution

2. [IISE PGE Energy Analytics Challenge 2025: Hourly-Binned Regression Models Beat Transformers in Load Forecasting](#)
Millend Roy*, Vladimir Pyltsov*, Yinbo Hu.
1. [EnCortex: A General, Extensible and Scalable Framework for Decision Management in New-age Energy Systems.](#)
Millend Roy*, Vaibhav Balloli*, Anupam Sobti, Tanuja Ganu, Akshay Nambi.

Journal

2. [Machine Learning Based Adaptive Fault Diagnosis in Active Distribution Network.](#)
Sourav Kumar Sahu, **Millend Roy**, Soham Dutta, Debomita Ghosh, Dusmanta Kumar Mahanta.
In: *Electric Power Systems Research EPSR'23*
1. [A Data-Driven Fault Detection Approach using Smart Meters in Modern Distribution System.](#)
Soham Dutta*, Sourav Kumar Sahu*, **Millend Roy**, Pradip Kumar Sadhu.
In: *Sustainable Energy, Grids and Networks SEGN'23*

Workshops & Conference

4. [Dynamic Incentive Design for Demand Response in Energy System MicroGrids](#)
Millend Roy, Vladimir Pyltsov, Raturaj Godse, Tony Dear.
2025 16th ACM Conference on Future and Sustainable Energy Systems, E-ENERGY '25, Rotterdam, Netherlands
3. [Reliable Energy Consumption Modeling for an Electric Vehicle Fleet.](#)
Millend Roy, Akshay Nambi, Anupam Sobti, Tanuja Ganu, Shivkumar Kalyanaraman, Shankar Akella, Jaya Subha Devi, and S A Sundaresan.
2022 5th ACM Conference on Computing and Sustainable Societies. COMPASS'22. Seattle, WA, USA
2. [A Deep Learning Framework for Enhancing Maritime Coastal Security.](#)
Millend Roy, Abhinav Gautam, Aayush Sugandhi.
2021 2nd IEEE International Conference for Emerging Technology. INCET'21. Belgaum, Belagavi, India

1. Renewable Energy and Demand Forecasting in an Integrated Smart Grid.

Vishnu Vardhan Sai Lanka*, **Millend Roy***, Shikhar Suman, Shivam Prajapati.

2021 IEEE Innovations in Energy Management and Renewable Resources. IEMRE'21. Kolkata, India

SKILLS

Languages	Python, C++, C
Frameworks	PyTorch, StableBaselines, RLlib, rsome, Pyomo, scikit-learn, Keras, TensorFlow, NumPy, Pandas, SciPy, SymPy, Matplotlib, Seaborn, Plotly, Streamlit, Gurobi, Google ORTools, Cvxpy, Cplex
Tools and Tech.	Matlab, Simulink, Tableau, Docker, Git
Courses	Computational Reinforcement Learning, Data-Driven Decision Modeling, Linear, Convex and Combinatorial Optimization, Stochastic Processes, Analysis of Algorithms, Stochastics in Finance
Online Courses	Inferential Statistics, Machine Learning by Andrew NG, Coursera Deep Learning AI Specialization.

SOFTWARE

CapOptix - Options Framework for Capacity Market Pricing	<i>Columbia University</i>
EnCortex - Decision Management Framework for new-age Energy Systems	<i>Microsoft Research India</i>
Hurr.AI - an AI enabled Recommendation Engine based Learning Platform	<i>Hurrey Tech Ventures R&D</i>

SELECT AWARDS AND HONORS

• Ranked 2 nd in the PG&E Energy Analytics Challenge by IISE ESD and INFORMS QSR Sections.	Jun 2025
• Selected as the Piyasombatkul Fellow'23 at Columbia Engineering.	Sep 2023
• Convocation: Institute Silver Medal Holder of EE'21 batch, IIT ISM Dhanbad.	Aug 2022
• ASEAN India Hackathon'21 Global Finalist .	Jan 2021
• Winner of the Grand Finale of Smart India Hackathon'20.	2020
• Samsung Innovation Awards Finalists .	2020
• Press: Contribution to Hurr.Ai led to nomination of Hurrey in SAP ET Innovation Awards.	2020
• SURGE'20 opportunity at IIT Kanpur.	2020
• SPARK'19 internship opportunity at IIT Roorkee.	2019
• TU Kaiserslautern, Germany internship opportunity for the summers 2020.	2019

TEACHING & VOLUNTEERING

-
- Ph.D. Enhanced Teaching Assistant at **Columbia University** for :
 - Algorithmic Trading (IEOR 4733) by **Prof. Christopher Perez**, Spring 2025.
 - Applications Programming for Financial Engineering (IEOR 4500) by **Dr. Anran Hu**, Fall 2024.
 - Analysis of Algorithms (CSOR 4231) by **Dr. Rachel Cummings**, Spring 2024.
 - Volunteering at **Kartavya**: taught Mathematics to underprivileged children; preparing them for secondary high school.

TALKS & PRESENTATIONS

ACM Conference on Future and Sustainable Energy Systems, Rotterdam, Netherlands. [🔗]	Jun 2025
Future Energy Summit, Boston, MA, USA. [🔗]	Feb 2025
Ph.D. Candidacy at Columbia University, New York, NY, USA.	Sep 2024
Microsoft Research Fellows' Graduating Day Poster, Bangalore, India. [🔗]	Jun 2023
ACM Conference on Computing and Sustainable Societies, Seattle, WA, USA. [🔗]	Jun 2022
Societal Impact through Cloud and AI Technical Talk, Bangalore, India. [🔗]	Apr 2022
Technology and Empowerment Talk, Bangalore, India. [🔗]	Dec 2021
IEEE International Conference for Emerging Technology, Belgaum, India. [🔗]	May 2021
Innovations in Energy Management and Renewable Resources, Kolkata, India. [🔗]	Feb 2021

EXTRA CURRICULARS

-
1. Completed 5th year, Sr. Diploma, with distinction in the subject of **Painting** under Ideas Art and Craft Forum.
 2. Completed 3rd year, Sangeet Bhushan Final, with first division in the subject of **Vocal Classical**.