

# MILLEND ROY

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## 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

<b>Languages</b>	Python, C++, C
<b>Frameworks</b>	PyTorch, StableBaselines, RLlib, rsome, Pyomo, scikit-learn, Keras, TensorFlow, NumPy, Pandas, SciPy, SymPy, Matplotlib, Seaborn, Plotly, Streamlit, Gurobi, Google ORTools, Cvxpy, Cplex
<b>Tools and Tech.</b>	Matlab, Simulink, Tableau, Docker, Git
<b>Courses</b>	Computational Reinforcement Learning, Data-Driven Decision Modeling, Linear, Convex and Combinatorial Optimization, Stochastic Processes, Analysis of Algorithms, Stochastics in Finance
<b>Online Courses</b>	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&amp;D</i>

## SELECT AWARDS AND HONORS

• Ranked 2 <sup>nd</sup> in the PG&E Energy Analytics Challenge by IISE ESD and INFORMS QSR Sections.	Jun 2025
• Selected as the <b>Piyasombatkul Fellow'23</b> at Columbia Engineering.	Sep 2023
• Convocation: Institute <b>Silver Medal</b> Holder of EE'21 batch, IIT ISM Dhanbad.	Aug 2022
• ASEAN India Hackathon'21 <b>Global Finalist</b> .	Jan 2021
• <b>Winner</b> of the Grand Finale of Smart India Hackathon'20.	2020
• Samsung Innovation Awards <b>Finalists</b> .	2020
• <b>Press:</b> 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. [ <a href="#">🔗</a> ]	Jun 2025
Future Energy Summit, Boston, MA, USA. [ <a href="#">🔗</a> ]	Feb 2025
Ph.D. Candidacy at Columbia University, New York, NY, USA.	Sep 2024
Microsoft Research Fellows' Graduating Day Poster, Bangalore, India. [ <a href="#">🔗</a> ]	Jun 2023
ACM Conference on Computing and Sustainable Societies, Seattle, WA, USA. [ <a href="#">🔗</a> ]	Jun 2022
Societal Impact through Cloud and AI Technical Talk, Bangalore, India. [ <a href="#">🔗</a> ]	Apr 2022
Technology and Empowerment Talk, Bangalore, India. [ <a href="#">🔗</a> ]	Dec 2021
IEEE International Conference for Emerging Technology, Belgaum, India. [ <a href="#">🔗</a> ]	May 2021
Innovations in Energy Management and Renewable Resources, Kolkata, India. [ <a href="#">🔗</a> ]	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**.