



**National Institute of Technology
Rourkela**

**Short Term Course
&
Faculty Development Programme
On**

***AI and ML Applications in Power
Systems***

2nd to 6th Dec, 2024

(Online Mode)

Coordinators

Dr. Susmita Kar

Dr. Shekha Rai

Organized By

**Women in Engineering
Department of Electrical
Engineering National Institute of
Technology Rourkela, Odisha-
769008**

Technically Co-sponsored by:



About the Institute

The course will be organized by the IEEE Women in Engineering at the Department of Electrical Engineering, National Institute of Technology (NIT), Rourkela. It is one of the premier national level institutions for technical education in the country and is funded by the Government of India.

Please visit <https://www.nitrkl.ac.in/>

34 NIRF Overall	19 NIRF Engg.	30 NIRF Research	291-300 QS Asia
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About the Department

The department of Electrical Engineering is established with the vision to design technologies and nurture technologists for diverse and sustainable growth in electrical engineering, leading to wealth and welfare of humanity. The department offers various UG and PG programmes with the mission to develop a platform for forging students as technocrats in line with cutting-edge academic, research and modern industrial practices, and enhancing their aptness in any technical sectors across the globe.

Please visit <https://www.nitrkl.ac.in/EE>

Introduction

In the dynamic realm of modern power systems, AI and data analytics spearhead an era of unparalleled efficiency and reliability. Researchers employ AI algorithms and data analytics tools to optimize power generations, distribution and consumption. Machine learning models predict equipment failures, bolster grid resilience and optimize energy usage in real-time. These data-driven approaches transform traditional power systems into intelligent, adaptive networks. Innovative applications such as predictive maintenance and demand forecasting address complex challenges, paving the way for sustainable and resilient power infrastructures. The integration of AI drives continual advancements, shaping the future trajectory of power systems toward heightened efficiency and reliability.

The program aims to delve into AI algorithms, machine learning techniques, and data-centric decision-making within power systems facilitating a deep understanding, so that faculty, researchers and students can incorporate AI and ML principles into their research endeavors.

Topics to be covered

- Challenges with Big Data Analytics Applications in Power System
- AI and IoT applications in Power System Domain
- Fuzzy, ANN and Regression based techniques for process optimization
- Optimization techniques in Power System Applications using AI
- Intelligent IoT and Predictive Maintenance
- Optimization of sustainable grid integrated hybrid energy system in India
- AI In RE and microgrid environment
- High performance computing in power system
- AI driven microgrid control and protection
- Applications of Regression and classification in power system
- Deep Reinforcement Learning enabled smart energy distribution and control

Eminent Speakers

- Prof. Pravat Ray, NIT Rourkela
- Dr. Manas Kumar Jena, IIT Pallakad
- Dr. Nikhil Sharma, GE Renewable Energy, Noida, India
- Dr. Biswajit Sahoo, NIT Silchar
- Dr. Ananyo Sengupta, NIT Rourkela
- Dr. Shailendra Singh, NIT Agartala
- Dr. Ajit Kumar, NIT Patna
- Dr. Satyasai Jagananth Nanda, NIT Jaipur
- Dr. Susmita Kar, NIT Rourkela
- Dr. Shekha Rai, NIT Rourkela

Eligibility

This program is open to faculty members, research scholars, PG & UG students and industrial personnel

Committee

Patron

Prof. Umamaheshwar Rao Karanam

Director, NIT Rourkela

Chairman

Prof. Kanungo Barada Mohanty

HoD, DoEE, NIT Rourkela

Convenor

Dr. Susmita Kar

Assistant Professor, DoEE, NIT Rourkela

Dr. Shekha Rai

Assistant Professor, DoEE, NIT Rourkela

Online Account Details

Account No: 10138951784

Account Name: CONTINUING EDUCATION NIT ROURKELA

IFSC No: SBIN0002109

Branch: State Bank of India, NIT Campus Rourkela.

Link for e-registration through google form (For external participants)

<https://docs.google.com/forms/d/1CTSZKofnlyHlysdZ6gTHYgs2b37g7zektTXY0SAHKjU/>

Registration Details

Category	Online Registration Fee in INR
Research Scholars/ PG / UG (3 rd year onwards) Student	500/-
Faculty from Engineering Institutes	800/-
Engineers from Industry and R&D Organizations	1500/-

Important Dates

Registration Deadline: 29th Nov 2024

Short-term Course Date: 2nd - 6th Dec 2024

e-Certification

E-certificates will be provided to all the participants.

Contact us:

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