JRF Position Open on a Smart Energy Learning Centre Project
(SELC is a new research centre at DA-IICT funded by BSES Delhi, India)
Ref. No. SELC/25/03

Applications are invited from highly motivated candidates with good academic records for a full-time, fixed-term JRF position with the Smart Energy Learning Centre (SELC) at the Dhirubhai Ambani Institute of Information and Communication Technology (DA-IICT), India. The project details, requisite qualifications, and experience are as follows.

Project Title

Development of a machine learning-based framework for real-time anomaly detection in electricity consumption data

Position and Fellowship

- **Research Fellow – 1 post**
- INR 45,000 per month (all inclusive)

Eligibility Requirements

Essential Qualifications

- M.E./M.Tech. in Computer Science & Engineering, ICT, Data Science, AI, ML, or equivalent, with at least 60% marks. Preference may be given to GATE-qualified candidates or those with research/industry experience.
- OR, B.E./B.Tech. in Computer Science & Engineering, ICT, Data Science, AI, ML, or equivalent, with at least 60% marks. Preference may be given to GATE-qualified candidates or those with research/industry experience.
- OR, M.Sc. in Data Science, AI, or ML, with at least 60% marks. Preference may be given to candidates qualified through CSIR-UGC NET or IIT JAM, and those with industrial/research experience.
- Deep understanding of AI/ML models for forecasting tasks.
- Good Python programming skills: Scikit-learn, NumPy, Pandas, MLX, and at least one of the deep learning libraries: PyTorch, Keras, or TensorFlow.
- Strong command of oral and written English.

Desirable Qualifications

- Strong mathematical and statistical background
- Prior exposure to solutions to the problems related to smart grid and energy conservation/efficiency

Period of Appointment

This position is temporary, with an initial appointment for one year, and it is extendable for up to one more years based on satisfactory performance. This does not confer any right for the candidate to claim an extension or absorption at DA-IICT. However, according to the available guidelines, the selected candidate will be encouraged to apply for the Ph.D. program at DA-IICT.

Job Description

Project Focus

- Collect the electricity consumption data from existing electricity utility companies and available datasets worldwide.
- Develop advanced analytical tools using machine learning and deep learning for obtaining the decisions regarding anomalous usage patterns including fraudulent activities

Role and Responsibilities

- Develop an efficient system for collecting electricity consumption and pricing data and study their statistical characteristics.
- Conduct research and develop forecasting models for quantifying anomalous patterns in the overall electricity consumption off of the grid and for enhancing the dynamic pricing models.
- Develop end-to-end machine learning solutions for effective decision-making, deployable on the smart grids.
- Produce high-quality journal and conference publications.
- Perform other duties related to the project as assigned.

Location

Based at the Smart Energy Learning Centre, DA-IICT, Gandhinagar, India.

Professional Development

Supported in professional development with access to career-focused training opportunities.

How to Apply

Interested candidates must send their detailed **Curriculum Vitae** with a **Cover Letter** by **March 30, 2025**, through an email to Dr. Umang Patel at **research_officer[at]daiict[dot]ac[dot]in**

Please write **"(Ref No. SELC/25/03) Application for Research Fellow position for "Development of a machine learning-based framework for real-time anomaly detection in electricity consumption data"** in the subject line of the email.

Only shortlisted candidates will be called for an interview, which they will attend at their own expense; no TA/DA will be provided. Candidates may appear for the interview online also. During the interview, candidates' knowledge will be assessed in the areas of **Computer Science, Machine Learning, Deep Learning, and Python programming.**

Last Date of Application

April 6, 2025

For informal queries, please contact:
Dr. Yash Vasavada at **yash_vasavada[at]daiict[dot]ac[dot]in**