INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
POWAI, MUMBAI 400076.

Advertisement No.: IRCC/EXT038/2025

Job Title
Project Engineer

Job Reference Number
50674969

Application End Date
10.03.2025

Type of Employment
Proj. Staff Contract

No. of Position(s)
1

IITB Project Recruitment:

Project title: Unleashing the potential of real-time very high-resolution carbon emissions data for 100+ cities in India.

About the project: The Indian 100+ project (CHETNA) is set to take a significant step forward by providing real-time and very high- spatial resolution estimates of CO_2 emissions and energy use for over one hundred urban areas in India, and pave the way for other global South cities. This will be accomplished by utilizing artificial intelligence, bottom-up urban datasets from different census years and surveys, mobility data, satellite imagery to obtain high-resolution data down to the building level. Unlike the national inventory, these estimates will be updated monthly and will report across consistent sectors and fuel types, providing a comprehensive view of emissions. To enhance the effectiveness of the new urban emissions and energy use datasets, the project will formulate strategies for reducing demand and improving spatial efficiency across different sectors, resulting in a set of idealized mitigation scenarios. These scenarios will be analyzed for their impact on emission reduction targets at city, regional, and national levels, providing policymakers with insights for informed decision-making. Additionally, the scenarios will address the air quality co-benefits by assessing the potential reduction of air pollutants associated with urban decarbonization. All of the data generated by the project will be publicly available on the project website, promoting transparency and facilitating the data uptake by various stakeholders including policymakers, and research communities.

Essential Qualifications & Experience:

BTech or MSc or MCA with two years of work experience
OR
MTech/ MS in Computer Science, Data Science, Statistics, Computer applications.

Desirable:
• Proficiency in data analysis tools such as Python, R, SQL, and Excel.
• Knowledge of machine learning techniques and their applications in environmental data
• Strong analytical mindset and problem-solving skills
• Excellent communication skills and the ability to present complex data in a clear, accessible manner
• Working experience of handling large-scale datasets, especially in environmental or urban contexts, will be an advantage.

Job Profile:

It will be a Data Analyst role. The selected candidate is expected to conduct data screening, conduct statistical data analysis, assist in visualization of the data for a dashboard, and develop data management system.

Key Responsibilities:
• Prepare questionnaire, conduct field survey (self/survey agency based), collect and tabulate data.
• Collect, clean, sort and process real-time carbon emissions data, transport, industry, and residential sector data from various sources, including field survey, satellite imagery and IoT sensors.
• Perform statistical analysis and predictive modeling on large datasets to track carbon emission trends.
• Develop and maintain data dashboards and visualizations to monitor city-level carbon footprints.
• Collaborate with GIS specialists, environmental scientists, and urban planners to deliver comprehensive reports.
• Use data to support policy recommendations aimed at reducing urban carbon emissions.
• Ensure the integrity and quality of data by applying best practices in data management and validation.

Pay Details:

Level PR-O1: Salary range from Rs.33600 to Rs. 67200 + Rs.6250.00/- Out Of Campus Allowance (if applicable) p.m.

General information:

The position is temporary for a period of 1 year and tenable only for the duration of the project. The appointment is for time bound project and the candidate is required to work mainly for the successful completion of the project. The selection committee may offer lower or higher designation and lower or higher salary depending upon the experience and performance of the candidate in the interview.
Candidates called for interview will be required to attend at his/ her own expenses.
For any queries/clarification please contact: recruit@ircc.iitb.ac.in