



## What we offer

- ✓ **Upskilling:** Update your skill in the emerging area of artificial intelligence and machine learning and Structural Engineering.
- ✓ **Multi-disciplinary Research Experience:** Aids from other branches of learning to achieve a common goal
- ✓ **Mentorship:** Guide you through work-related situations with long-term support on general work-related advices.
- ✓ **Access to advanced laboratories:** Get to use the structural engineering lab and computational facility of IIT (BHU)
- ✓ **Accommodation:** Free lodging and dining at IIT (BHU) hostel
- ✓ **Travel Allowances:** Reimbursement of full to-and-fro train fair (SL class only).

## Training and Skill Internship on Applications of Artificial Intelligence and Machine Learning in Structural Engineering Problems

IIT (BHU) Varanasi  
15 May-13 July, 2023

## About the Internship

This internship program seeks to apply artificial intelligence and machine learning to solve real-life problems in structural engineering.



*Prediction of properties of fresh and hardened concrete using machine learning*



*Crack detection in concrete structures using deep learning*



*Ground motion selection for seismic fragility studies considering soil-structure interaction, using machine learning*

## Coordinators:

**Dr. Vishwajit Anand**  
Assistant Professor  
Department of Civil Engineering

**Dr. Mahendra Kumar Pal**  
Assistant Professor  
Department of Civil Engineering

# Join Us

## **Eligibility Criteria:**

### **Essential:**

- B.Tech/B.E. in any stream, or B.Sc/BCA and
- M.Tech/M.E. in any stream or M.Sc/MCA (Pursuing)

### **Desirable:**

- Intermediate level of programming skills
- Basic understanding of Artificial Intelligence and Machine Learning

## **Selection Criteria:**

- Undergraduate CGPA/Percentage
- Statement of Purpose

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## About the Institute

The institute completed its 100 years in 2019, and we wish to take forward the legacy with rejuvenated vigor and sheer dedication with a commitment to nation building. The Indian Institute of Technology (Banaras Hindu University) Varanasi owes its existence to Bharat Ratna Mahamana Pandit Madan Mohan Malviya, the founder of the first residential University of modern India, Banaras Hindu University (BHU), who could foresee the vital role of technical education in strengthening independent India. Engineering education in BHU started in 1919 with the establishment of Banaras Engineering College (BENCO). The next stage of development saw the establishment of College of Technology (TECHNO) and College of Mining & Metallurgy (MINMET). In 1968, the erstwhile engineering colleges of BHU, namely BENCO, MINMET, and TECHNO, were merged to form the Institute of Technology (IT-BHU). IT-BHU had been admitting students through the JEE conducted by the IITs since 1972. The erstwhile IT-BHU was ranked consistently amongst the top engineering institutions of the country. IT-BHU became IIT (BHU) Varanasi on June 29, 2012, by an Act of Parliament. Following its conversion to IIT, the Institute has quickly established procedures and practices as per the standards of IITs.

## About the Department

The Civil Engineering Department was established in 1949 (then known as Civil and Municipal Engineering) in BENCO (Banaras Engineering College) which was a part of BHU. Presently, it caters its student with various Post Graduate courses like Environmental Engineering, Geotechnical Engineering, Hydraulic Engineering, Structural Engineering, and Transportation Engineering. The department has taken up various research programmes apart from regular teachings and the research activities, namely CSIR, UGC, SAP, HUDCO, DST and AICTE. It has a created cooperation with industries to work for the various tasks given by Govt., Semi-Govt. and other Private organisations. It conducts short-term courses, training courses, seminars, workshops and conferences for enrichment in quality of students and entrepreneurs. The department has its own Civil Engineering Society which is dedicated in organising lectures by various experts in their respective field, group discussions, competitions, sports and various other extra-curricular and cultural activities so that there would be an holistic all round development of students.

## Contact Us:

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