



# भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद Indian Institute of Technology (Indian School of Mines), Dhanbad

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## PRESS-RELEASE

### IIT (ISM) Dhanbad Team Clinches Top Honour at IndiaAI Hackathon on Mineral Targeting 2025

The Indian Institute of Technology (Indian School of Mines), Dhanbad, is delighted to announce that *sRCg Solution's "CricSM AI"*, developed by a team led by **Prof. Partha Pratim Mandal**, Assistant Professor in the Department of Applied Geophysics, has won the **IndiaAI Hackathon on Mineral Targeting 2025**. The award was presented on November 5, 2025, at Electronics Niketan, CGO Complex, New Delhi.

The winning team includes **Dr. Pradeep Kumar Shukla, Litan Dutta, Dinesh Munda, Tanmay Singh, and Sai Satyam Jena**, who collaborated under Prof. Mandal's leadership to develop a highly advanced AI-driven mineral targeting system.

The national-level competition, organised by the Ministry of Electronics & Information Technology (MeitY), Government of India, spanned several months. Beginning with registration and solution submission from March through mid-June 2025, it progressed into extensive evaluation rounds and final presentations. The hackathon sought to tap the potential of artificial intelligence for mineral exploration across India.

The team's solution, *CricSM AI*, stood out for its ability to generate **critical and strategic mineral mapping** across key regions, including **Jharkhand, southern Rajasthan, Karnataka, and Andhra Pradesh**. The project fused **large language models (LLMs), the Naini model, ensemble machine learning approaches, and convolutional neural networks (CNNs)** to predict and map deposits of **gold, diamond, graphite, rare earth elements, copper, iron, and manganese**, complete with **uncertainty quantification**. By synthesising multidisciplinary geoscientific datasets, the team created an exceptionally precise mineral prospectivity map, followed by **depth evaluation for concealed and deep-seated deposits**, marking a significant advancement in AI-supported geoscience.

The award was conferred by **Prof. Ajay Kumar Sood**, Principal Scientific Advisor to the Government of India; **Shri S. Krishnan**, Secretary; **Shri Abhishek Singh**, Additional Secretary; and senior officials from MeitY. Their acknowledgment of the project underscores India's growing emphasis on cutting-edge AI innovation in natural resource discovery.

This achievement reinforces IIT (ISM) Dhanbad's longstanding legacy in geoscience, mining engineering, and advanced computational research, while establishing the *CricSM AI* project as a benchmark for future AI-enabled mineral exploration initiatives in the country.

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