

RANJAN SARKAR

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PhD Research Scholar
Department of Artificial Intelligence
Indian Institute of Technology Kharagpur

[LinkedIn](#)
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About

I am a 1st year PhD scholar at the Department of Artificial Intelligence (AI), IIT Kharagpur. I am working in the **PSALM (Predictive Stochastic Adaptive Learning Machine)** Lab under the supervision of **Prof. Prabhat Kumar Mishra**. My research focuses on developing new robust RL algorithms with applications in LLM, Robotics, etc.

Research Interest

Reinforcement Learning, RLHF, Optimization, Robotics and Automation, Agentic AI

Work Experience

2023 – 2024: Senior Business Analyst • **EXL Service**
Gurgaon, India

Education

2025 – Present: Indian Institute of Technology Kharagpur
PhD, Artificial Intelligence

2021 – 2023: Indian Institute of Technology Kharagpur
Master of Science (MSc), Mathematics
CGPA: 8.76/10

2018 – 2021: Ramakrishna Mission Vidyamandira (University of Calcutta)
Bachelor of Science (BSc), Mathematics
CGPA: 9.15/10

2018: Raiganj Coronation High School (HS)
12th Standard, Science Stream
Percentage: 88.6%

2016: Raiganj Coronation High School (HS)
10th Standard
Percentage: 94.57%

Teaching Assistant

AI60211 • Algorithmic and Mathematical Foundations for AI

Autumn 2025 | Course Instructor - Prof. Adway Mitra

Projects

Master's Thesis: Image Compression (2022-2023)

Supervisor: Prof. Swanand Khare, Department of Mathematics, IIT Kharagpur

- **Tensor CP decomposition** is implemented in a Python notebook.
- The **Alternative Least Square (ALS)** Optimization Method has been applied to get the low-rank approximation of the RGB image tensor.

Courses & Skills

<ul style="list-style-type: none">• Linear Algebra• Probability & Statistics• Machine Learning• Deep Learning• Artificial Intelligence• Convex Optimization	<ul style="list-style-type: none">• C Programming, Python• Numerical Methods• DBMS, SQL• Non-Linear Programming• AI for Cyber Physical Systems• AI for Robot Autonomy
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Awards & Achievements

1. Cleared the Joint CSIR-UGC NET (June 2024) with Lectureship.
2. **INSPIRE Scholarship Holder** (2018-2023) by DST (Department of Science and Technology), Govt. of India.

Contact

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