Ujan Deb

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EDUCATION

IIT BHILAI
MTech in Computer Science
Jun 2022 | Bhilai, CG
GPA: 9.55

IEM KOLKATA
BTech in Electrical Engineering
Jun 2018 | Kolkata, WB
GPA: 7.97

SKILLS

PROGRAMMING
Languages:
Python • C • Java
Technology:
PyTorch • Jax • Git

COURSEWORK

Data Structures and Algorithms
Linear Algebra
Multivariate Calculus
Probability
Graph Theory
Machine Learning
Adversarial Machine Learning
Information Retrieval
Advanced Data Analytics

PROJECTS

- End to end Conv QA pipeline with transformer models (thesis).
- Cobble detection and prevention with Bhilai Steel Plant, analyzing PLC time series data alongside image and video feeds.
- LSTM based text summarizer.
- Public transport tracking mobile application with API from Calcutta State Transport Corporation (CSTC).
- 3rd place at Jadavpur University Hackathon. 3rd place at Kshitij, IIT Kharagpur. All India finals at TCS Hackathon.

EXPERIENCE

UNSW | PhD Candidate
May 2025 - Present | Sydney, NSW

- Exploring reasoning and interpretability of LLMs and VLMs.

DRDO | Research Fellow
May 2024 - May 2025 | Bengaluru, KA

- Working on analyzing and inducing compositional reasoning in LLMs using tools from mechanistic interpretability.

UT AUSTIN | Research Assistant
Nov 2023 - Apr 2024 | Remote

- Worked on computational social science, analyzing sports language in online political discourses and its implications.

RASHI.AI | Intern
Sep 2023 – Nov 2023 | Remote

- Analyzed trends in programming languages and technologies across diverse domains to generate insights for both employers and employees.

IISC | Research Fellow
Sep 2022 - Oct 2023 | Bengaluru, KA

- Built high performance speech recognition models.
- Compressed and sparsified models to work efficiently under low resource settings.

IIT BOMBAY | Research Intern
May 2022 – Jul 2022 | Mumbai, MH

- Worked on zero shot cross lingual transfer for low resource languages.

RESEARCH

[1] U. Deb, R. Parab, and P. Jyothi. Zero-shot cross-lingual transfer with learned projections using unlabeled target-language data. *Proceedings of the 61th Annual Meeting of the Association for Computational Linguistics*, 2023.

[2] S. Ganguly, R. Nayak, R. Rao, U. Deb, and P. AP. Adakd: Dynamic knowledge distillation of asr models using adaptive loss weighting. *arXiv:2405.08019*, 2024.