ANIRUDDHA DEB

 Aniruddha-Deb   Website   cs1200869@iitd.ac.in

EDUCATION

Indian Institute of Technology, Delhi   Nov 2020 - Present
B.Tech in Computer Science and Engineering   *CGPA:* **9.55/10**

ACADEMIC ACHIEVEMENTS

- Awarded the **Reliance Foundation Scholarship** for the batch of 2020-24
- Awarded the **Summer Undergraduate Research Award 2022** by IIT Delhi
- Awarded the **Endowment Merit Scholarship** by the IIT Delhi Alumni Association
- Invited to Japan for a week-long research visit under the **Sakura Science Exchange Program**
- Awarded the **Semester merit prize** for being in the top 7% of students in 1st, 2nd and 3rd semester
- All India Rank of **323** out of 160,000 applicants in **JEE (Advanced) 2020**.

KEY COURSES TAKEN

- **Undergraduate**: Introduction to Artificial Intelligence, Probability and Stochastic Processes, Statistical Methods, Operating Systems, Parallel and Distributed Programming, Linear Algebra
- **Graduate**: Machine Learning, Deep Learning, Natural Language Processing

WORK EXPERIENCE

COL333: Introduction to Artificial Intelligence   *Fall 23-24*
Teaching Assistant

Optiver   *Summer 2023*
Software Engineering Intern, Hardware Development Team

Neuroimaging lab, IIT Delhi   *Summer 2022*
Undergraduate Research Assistant

RESEARCH PROJECTS

Constrained Abductive Reasoning   *Ongoing*
Advisor: Prof. Parag Singla

Working on making LLMs perform Abductive Reasoning in constrained settings, such as inferring missing values in Mathematics Problems given the answer, or generating stories given constraints.

LLM-based tagging for low resource languages   *Ongoing*
Advisors: Prof. Parag Singla, Prof. Mausam

Developing NER/POS taggers for low-resource languages using retrieval based prompts from related high-resource languages.

Applications of IS-TSA in Exploring Human Brain Functions   *Summer 2022*
Advisor: Prof. Rahul Garg   *Summer Undergraduate Research Award 2022*

Implemented tooling to compute *Inter-Subject Temporal Synchronization Analysis* scores in a memory-efficient, multithreaded manner. Also analysed results of TSAIS signals via clustering in the NKI Checkerboard and HCP Retinotopy/Working Memory datasets

TECHNICAL SKILLS

- Languages: Python, C, C++, Java, SML, OCaml, Prolog, VHDL, ARM Assembly, CUDA, R, JavaScript
- Platforms: Pytorch, OpenAI API, CUDA, HPC (PBS), Linux Kernel, Linux (Bash), Vue

SELECTED COURSE PROJECTS

1.	Visual Question Answering on CLEVRER	*Deep Learning, Spring 22-23*
2.	Text to SQL Generation	*Deep Learning, Spring 22-23*
3.	Exploring Normalization in CNNs	*Deep Learning, Spring 22-23*
4.	Named Entity Recognition in Medical Literature	*Natural Language Processing, Spring 22-23*
5.	Dialog Parsing for Task-Oriented Dialog Systems	*Natural Language Processing, Spring 22-23*
6.	Deadline and Rate Monotonic Scheduling for Linux 6.1	*Operating Systems, Spring 22-23*
7.	A LIFO character device driver for Linux 6.1	*Operating Systems, Spring 22-23*
8.	Sparse Matrix Multiplication with CUDA	*Parallel Programming, Spring 22-23*
9.	Distributed k-truss discovery in Dense Graphs	*Parallel Programming, Spring 22-23*
10.	Book Genre prediction from Title and Cover	*Machine Learning, Fall 22-23*
11.	MCTS for Extended Connect 4	*Introduction to AI, Fall 22-23*
12.	Trickle: A Peer-Server-Peer Filesharing System	*Computer Networks, Fall 22-23*
13.	Hardware Neural Networks for MNIST	*Digital Logic & System Design, Fall 22-23*
14.	An ARMv4T CPU Implementation	*Computer Architecture, Spring 21-22*
15.	LSB Image Steganography library	*Signals and Systems, Spring 21-22*
16.	A Compiler for the WHILE language	*Programming Languages, Spring 21-22*
17.	DSCoin: A Blockchain Implementation	*Data Structures and Algorithms, Fall 21-22*

SELECTED PERSONAL PROJECTS

1.	RubiksCube: An Interactive Quizzing System	*Fall 21-22*
2.	OrderBook: Tracking orders for market making games	*Summer 2023*
3.	IIT Course Planner: A Dependency Manager for Courses at IIT Delhi	*Spring 21-22*
4.	Personal Blog	*Ongoing*

OTHER INTERESTS

Quizzing, Debate, Flute, Running, Badminton, Blogging, Volunteering, Teaching