



Subhanu Halder

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
PhD in Electrical Engineering	Indian Institute of Technology, Delhi	8.84	2021-Present
Masters in Computer Application	Jawaharlal Nehru University, Delhi	80%	2018-21
B.Sc in Mathematics	Jadavpur University, Kolkata	64.25%	2015-18
Senior Secondary	WBSE Board	85.2%	2015
Secondary	WBCHSE Board	82.5%	2013

PROJECTS

- **Coarse-and-learn: Efficient online node labeling**
Prof. Yifan Sun, Assistant Professor, Stony Brook University and Dr. Sandeep Kumar, Assistant Professor, IIT Delhi
 - Submitted to AAAI,2025
 - We explore the benefits and limitations of graph coarsening, in which graphs not currently being labeled are summarized into supernodes, producing an informative compressed Laplacian at each step.
- **Structured graph coarsening for efficient GNN** *December 2022 - August 2023*
Dr. Sandeep Kumar, Assistant Professor, IIT Delhi
 - Submitted to IEEE TSIPN
 - Developed a structured graph coarsening algorithm that imposes structures like k-component graph, bipartite graph etc, on the resulting coarsened graph
 - Trained graph neural network(GNN) on the coarsened graph will reduce the training time of GNN.
- **Harnessing Graph Neural Networks and Deep Learning for Next-Gen Biotech Portfolio Management** *Sep 2023- Present*
Prof. Sandeep Kumar, IIT Delhi
 - **LSTM and Transformer networks:** To predict future stock prices within the biotech industry.
 - **Graph neural networks (GNNs):** To capture relationships between companies and potentially improve prediction.
 - **Trading strategies:** Based on the predicted prices to simulate day trading.
 - **Markowitz portfolio optimization:** To diversify investment and manage risk in a day trading context.
- **Modified the xv6 Kernel to Achieve the Various Functionalities** *Jan 2022-April 2022*
Prof. Smruti Ranjan Sarangi, Professor, IIT Delhi
 - **Implemented System calls :** - memtop() Systemcall for available memory , csinfo() for number of context switches in the process, ps_sys() for printing all the running processes.
 - **Implemented Scheduling policies :** - Changed the existing scheduling policies and implemented our own "First Come First Serve", "Multi-level Queue, and Dynamic Multi-level Queue Scheduling algorithms".

PUBLICATIONS

- **Intelligent Part of Speech tagger for Hindi**,Procedia Computer Science, Elsevier, ICMLDE 2022
- **Optimization Framework for Semi-supervised Attributed Graph Coarsening**, UAI 2024
- **Multi-component Coarsened Graph Learning for Scaling Graph Machine Learning**, WWW 2025

ACHIVEMENT

- **Prime Minister Research Fellowship (Cycle-11),**

TECHNICAL SKILLS

- **Programming:** Python, C/C++, SQL
- **Tool:** GIT, Latex, Docker, Microsoft Azure
- **Framework:** Numpy, Panda, Tensorflow, Pytorch, OpenCV, CUDA

KEY COURSES TAKEN

Mathematical Foundations Of Computer Technology, Software Fundamentals For Computer Technology, Computer Architecture, Introduction To Machine Learning, Social Network Analysis, Advanced Machine Learning, Operating Systems, Convex Optimization, Data structure and Algorithm, Online Prediction Optimization and Learning

POSITIONS OF RESPONSIBILITY

- **Teaching Assistant**,in organizing tutorials, making assignments and assessments for exams in Mathematical Foundation for Computer Technology(ELL 780), Machine Learning (ELL 409), Design and analysis of algorithms (NPTEL), Operating System Fundamentals(NPTEL:noc24-CS108), Natural Language Processing(NPTEL:noc25-CS51)