

ANIMESH

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EDUCATION

PhD in AI | Graph Machine Learning | Protein Design

Indian Institute of Technology, Kharagpur

Aug 2021 – Ongoing Kharagpur, India

- Supervisor Prof. [Plaban Kumar Bhowmick](#) and Co-Supervisor Prof. [Pralay Mitra](#)

M.Tech | Control System (Electrical Engineering)

National Institute of Technology, Kurukshetra Score: 8.6/10

July 2018 – July 2020 Kurukshetra, India

PGD | Artificial Intelligence and Machine Learning

National Institute of Technology, Warangal Score: 3.4/4

Aug 2019 – Sept 2020 Online, Remote

B.Tech | Electrical and Electronics Engineering

Pranveer Singh Institute of Technology, Kanpur Percentage: 74.30

July 2012 – June 2016 Kanpur, India

WORK EXPERIENCE

AI Research Associate (ML,DL Instructor)

Spartificial Part-time

Oct 2021 – Aug 2022 Online, Remote

- Online lectures on Machine Learning and Deep Learning.
- Head of Artificial Intelligence team.

ML DL Python Teaching Management Mentoring

Deep Learning Instructor

InsideAIML Freelance

Mar 2022 – May 2022 Online, Remote

- Online lectures on Deep Learning and weekly doubt sessions.
- Creating coding assignments.

ML DL Python Teaching Mentoring

EXTRACURRICULAR TEACHING

Math of Machine Learning Summer School: MOML

Aug 2022

- Delivered coding tutorial on SVD, PCA as a teaching assistant.

SUMMARY

I am passionate about **ARTIFICIAL INTELLIGENCE** and especially **GRAPH MACHINE LEARNING**. I have hands-on experience from academia and industry. I now work as a full-time **RESEARCHER** and am interested in working with companies and academic institutions. My main expertise and interest revolves around **GNNs for MOLECULES, PROTEINS and LEARNING on GRAPHS**. Previously, I worked on traditional **DEEP LEARNING** and **NATURAL LANGUAGE PROCESSING** etc. I am a researcher with an electrical background, which has helped me develop a strong mathematical foundation and a desire to study, find and implement impactful solutions to important problems.

SKILLS

Python ●●●●●

Main language in projects and personal use.

Other Languages: HTML, CSS, C++(used occasionally), MATLAB(used occasionally)

PyTorch ●●●●●

Semi-Supervised learning, Language models for Proteins, Reinforcement Learning, Deep Learning (CNN, RNN, LSTM), and Projects done as coursework and created exercise for courses.

TensorFlow, Keras ●●●●●

Done various academic and industrial projects including **Image Segmentation, Image Recognition, Language Translation**

PyTorch Geometric and DGL ●●●●●

Using in the coursework **GMLFA** as a TA offered by **IIT Kharagpur** in Tutorials and in Research Papers Implementation

NetworkX ●●●●●

Other: Spectral Methods for Graphs, Linear Algebra, Computer Vision, NLP, Git, Jupyter, LaTeX, NumPy, Pandas, Scikit-Learn etc.

LANGUAGES

English ●●●●●

Professional Proficiency | Education in English

Hindi ●●●●●

Native Speaker

TEACHING ASSISTANT

Course TA (GMLFA) AI60007: [GMLFA](#)

IIT Kharagpur

 Part-time

 Autumn 2022-23

 IIT Kharagpur

- Making Tutorials for various coding implementations of Graph Models.
- Created and maintaining course web page.
- Assignment evaluation etc.

[GNN](#) [DGL](#) [Python](#) [Teaching](#) [Management](#) [PyTorch-G](#)

Course TA Machine Learning Foundations and Applications (AI42001)

IIT Kharagpur

 Part-time

 Spring 2021-22

 Online

- Making Tutorials for various coding implementations of Graph Models.
- Created and maintaining course web page.
- Assignment evaluation etc.

[GNN](#) [DGL](#) [Python](#) [Teaching](#) [Management](#) [PyTorch](#)

SELECTED PAPERS

- Filip Cornell, Jussi Karlegren, Animesh et al. (2022) "Symbolic Hyperdimensional Vectors with Sparse Graph Convolutional Neural Networks". Accepted in: [IJCNN 2022](#).
- Animesh et al. (2020) "Trajectory Tracking in a 3-DOF Robotic Manipulator using Sliding Mode Controller". In: [ICMICA 2020](#).

CERTIFICATIONS

- Deep Learning Specialization - 5 Courses | Neural Networks, Improving DNNs, Structuring a ML Project, CNNs, Sequence Models issued by [Coursera \(DeepLearning.AI\)](#)
- Natural Language Processing with Classification and Vector Spaces issued by [Coursera \(DeepLearning.AI\)](#)
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning issued by [Coursera \(DeepLearning.AI\)](#)
- Data structure and Algorithms in Python issued by [Udemy](#)
- Advanced NLP with Python for Machine Learning issued by [LinkedIn](#)

LEISURE

Sports: Gym-training, Badminton, Cricket. Reading books (biographies, lifestyle), Cooking, Writing (stories, poetry), Learning Flute, Listening to Podcasts (AI, Maths, Psychology etc.)

AWARDS

- Received Prestigious Research Fellowship from TCS Research India, July-2023 [for 4 years]
- Top 1 percent in Intermediate board 2012 UP Government awarded *INSPIRE FELLOWSHIP* to top 1 percent students in 2012 Intermediate board result.

PROJECTS

Performance Comparison of DQN and Actor-Critic in Lunar Lander Environment

IIT Kharagpur

- Project in a course: Reinforcement Learning

Graph Neural Network architectures implementation

IIT Kharagpur


- This project is associated with GMLFA course where I implement various graph architectures and make video tutorials on them:

 [Repository](#)

[Node2vec](#) [DeepWalk](#) [GCNN](#)



Neural Language Transliteration, Hindi to English

Personal Project

- I used LSTMs in this project:  [Code](#)

Sentiment analysis and NER on Twitter data

NIT Warangal

- Implemented various seq2seq architectures:  [Code1](#)  [Code2](#)

Master's Thesis

NIT Kurukshetra

- Implemented various controllers using MATLAB in Robotic Manipulator: **Thesis Title: "TRAJECTORY TRACKING IN A 3-DOF ROBOTIC MANIPULATOR USING SLIDING MODE CONTROLLER"**