

TANAV SINGH BAJAJ

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EDUCATION

Indian Institute of Information Technology Bhopal
BTech Information Technology December 2020 - Present

Indian Institute of Technology Madras
Foundation in Data Science October 2020 - January 2022

Relevant Coursework

- Database Management Systems
- Advanced Engineering Maths
- Operating Systems
- Statistics for Data Science
- Soft Computing
- Data Structures and Algos

PUBLICATIONS

A Graph Embedding Approach for Deciphering the Longitudinal Associations of Global Mobility and COVID-19 Cases - *Raghav Awasthi, Meet Modi, Hardik Dudeja, Tanav Bajaj, Shruti Rastogi, Tavpritesh Sethi*

Pre-Print Link: <https://www.medrxiv.org/content/10.1101/2023.03.30.23287969v1> [↗](#)

Under Review AMIA 2023 Annual Symposium

RESEARCH EXPERIENCE

The University of British Columbia May 2023-Present
Research Intern under Prof (Dr.) Tao Huan

- Spearheading a research project focused on advancing disease detection in metabolomics through the application of deep learning techniques and graph neural networks.
- Developing and implementing cutting-edge deep learning models that leverage image classification by neural networks to analyze LC/MS mxml data, enabling accurate disease detection and diagnosis.

The University of Toronto May 2023-Present
Research Intern under Prof (Dr.) Zahra Shakeri Hossein Abad

- Assisting in a project to improve diabetes care in Canada by developing a cutting-edge tool for identifying and addressing misinformation and stigma associated with the disease.
- Working closely with domain experts to implement advanced language models, enabling the accurate analysis of online content related to diabetes.

Indraprastha Institute of Information Technology June 2022- Present
Research Intern under Prof (Dr.) Tavpritesh Sethi

- Conducting community detection using graph analysis to identify clusters of high Covid transmission and movement across geographical locations and informing targeted public health policies.
- Developed a comprehensive data visualization dashboard for Meta (formerly Facebook), using Docker and ELK Stack to effectively analyze and present large datasets from National Family Health Survey and District Level Household Survey, showcasing skills in Docker and ELK Stack.
- Assisting in tabular gene data modelling research using advanced techniques such as GANs, Gaussian Models and Bayesian models.
- Developed a SAAS using FastAPI for the research project, demonstrating proficiency in FastAPI and machine/deep learning algorithms.

Indian Institute of Information Technology, Bhopal November 2022-Present
Research Intern under Prof (Dr.) Bhupendra Singh Kirar

- Developed and implemented Neural Networks for the research paper, which involved utilizing CNNs and transfer learning techniques.
- Analyzed the classifier's performance using various evaluation metrics, including accuracy and specificity and presented the findings in the research paper.

PROFESSIONAL EXPERIENCE

Thapar University July 2023
Guest Lecturer

- Resources Shared with Students: <https://www.tanav.xyz/resources>
- Invited by Prof PS Rana to Conduct Lectures for Undergraduate students on Deep Learning, Generative AI and Natural language processing

HackerEarth

June 2022-December 2022

Technical Content Engineer Intern (SQL, DevOps and ML)

- Contributed to HackerEarth's internal technical question libraries. Reviewed 100% of the SQL, DevOps, and ML libraries and contributed 40% to the SQL part and 20% to the DevOps part.
- Utilized expertise in database design to develop questions of varying levels of difficulty for 4 different types of databases, including MySQL, Postgresql, OracleDb, and MSSQL server. while also working with Bash scripts on a daily basis.
- Contributed significantly to the technical interview process by providing relevant, challenging, and effective questions that accurately assess candidates' skills and knowledge.

Applied Analytics

May 2022-July 2022

Machine Learning Content Writer

- Partnered with an international client to deliver exceptional content on a range of Machine Learning topics, demonstrating my ability to effectively collaborate with diverse teams and stakeholders.
- Had a key role in the development of high-quality content, providing in-depth explanations and well-written sample code for various Machine Learning and Deep Learning algorithms, including regression, classification, and neural networks.

PROJECTS/ACHIEVEMENTS

Stock Analysis Techniques

February 2023

https://linktr.ee/college_minor_project ↗

- Collected stock data from Yahoo Finance API and used visualization techniques to analyze stocks
- Conducted backtesting on Amazon stock using the moving averages strategy to assess its effectiveness in generating buy/sell signals.
- Developed a stock predictor using LSTM and Meta Stock data to forecast future stock prices.

WGAN-GP

March 2023

<https://github.com/tanav2202/WGAN-GP> ↗

- Developed implementation of advanced WGAN-GP algorithm using TensorFlow for generating high-quality anime faces, addressing the common problem of mode collapse in GAN training.
- Successfully trained GAN model to produce diverse and realistic anime faces, demonstrating the effectiveness of the WGAN-GP algorithm for generating complex and varied images.

Graph Analysis on My LinkedIn

March 2023

<https://www.kaggle.com/code/tanavbajaj/graph-analysis-on-my-linkedin/notebook> ↗

- Demonstrated expertise in network analysis by creating and visualizing a comprehensive LinkedIn connections graph using Python and NetworkX.
- Identified and leveraged insights from the graph's structure, including key companies and positions, to make informed strategic decisions and maximize the value of my professional network.

Kaggle Expert

June 2022

<https://www.kaggle.com/tanavbajaj> ↗

- On my Kaggle profile, I have demonstrated my ability to analyze datasets and create effective solutions. My notebooks have been recognized with bronze medals, and I take pride in producing high-quality work.
- By leveraging my skills in exploratory data analysis and algorithm tutorials, I have established myself as a Kaggle expert, and I am committed to continuing to hone my skills in this field.

SKILLS

Mathematics:	Linear Algebra, Statistics, Probability, Calculus
Programming Languages:	Bash Scripts , Python, C++ ,R , MATLAB
Libraries/Frameworks:	Numpy , Pandas , Plotly/Dash , Sklearn , Tensorflow , PyTorch, Open CV
Database Management Systems:	SQL , MariaDb, MSSQL , OracleDb and PostgreSQL
Soft Skills:	Public Speaking, Leadership, Communication Skills

CERTIFICATES

Fundamentals of Deep Learning

NVIDIA 2022

Google Career Certificates (IT Support)

Google 2020

Diplomacy Award

World Federation of United Nations Association 2017

International Informatics Olympiad (Gold Medal) State Rank 3 and School Rank 1

Silver Zone 2017