



JAI VARDHAN MAHIWAL



ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Energy Engineering	Indian Institute of Technology Delhi	6.39
2022	Class XII, CBSE	Shiv Jyoti Sr. Sec. School, Kota, Raj.	90.2%
2020	Class X, CBSE	Disha Delphi Public School, Kota, Raj.	90.8%

PROJECTS

- **Percolation** (Prof. Robert Sedgewick) | C++ (June 2024)
 - Applied the **union-find algorithm** to store the collection of disjoint sets and identify when the $n \times n$ grid percolates.
 - Estimated the percolation threshold value **p star** to be **0.593** via the **Monte Carlo Simulations** for sufficiently large n (size).
 - Expertly utilized random sampling techniques to accurately estimate the percolation threshold in a grid-based model
- **Seam Carving** (Prof. Robert Sedgewick) | C++ (May 2024)
 - Developed a content-aware image resizing technique, which identifies and removes least importance (seams) from images.
 - Modified **Dijkstra's algorithm**, utilized **index-based priority queue** for minimum energy path, preserving critical image features.
 - Implemented various energy functions, including **gradient magnitude** and **Sobel filter**, to accurately assess the importance of each pixel
- **Cash Flow Minimizer** (Self Project) | C++ (May 2024)
 - Implemented the Minimum-Cost Flow algorithm and Network Optimization techniques to minimize cash flow within financial networks.
 - Utilized Flow Networks to achieve substantial cost reductions and operational efficiency improvements in financial transactions.
- **Extracting Stock sentiment from news headlines** (Self Project) | Python (June 2024)
 - Utilized **web-scraped** data from trusted sources to analyze market sentiment towards stocks.
 - Developed a Python-based sentiment analysis model using VADER, categorizing headlines into positive, negative, neutral sentiments.
 - Utilized **Pandas** and **Matplotlib** for **data preprocessing** and visualization to identify correlations between news sentiment and stock price
- **Analysis of Denmark's Energy Economy** (Prof Ramesh Narayan and Prof. Dibakar Rakshit) (January 2024 - May 2024)
 - Explored the history of Denmark's **energy economy** from geographical, geopolitical, and technological perspectives
 - Conducted a comprehensive analysis of Denmark's energy transition, focusing on the integration of **wind** and **solar power**
 - Examined Denmark's energy policies influenced by EU membership; Investigated innovations in renewable energy technologies
- **Energy Analysis of Mexico** (Prof Ramesh Narayan and Prof. Kaushik Saha) (August 2023 - November 2023)
 - **Researched** and **presented** a report on energy generation and consumption distribution across the past 40 years in the Mexico
 - Comprehensively discussed import/export balance, infrastructure, CO2/GHG emission, renewables and SDG scores

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, HTML, CSS, JavaScript, SQL
- **Libraries:** NumPy, Matplotlib, Pandas, SciKit-Learn, PyTorch ; **Online Courses:** Data Structures and Algorithms

POSITIONS OF RESPONSIBILITY

Enactus: A Global organization of students & business leaders operating in 33 Countries creating a better world through innovation & social entrepreneurial action

- **Senior Division Executive, Events and Outreach, Enactus** (August, 2023 - May, 2024)
 - **Managed** a nationwide college hackathon, serving as a liaison between organizing officials, sponsors, and fintech partners.
 - Oversaw the participation of **2000+** college teams and successfully raised **INR 20 Lakh** in sponsorship funds.
 - Sent **proposals** and **MOUs** to professors and renowned professionals in the fintech space, securing their participation as judges
 - **Coordinated** the collaboration between IIT Delhi and Australian exchange students from **Melbourne University**
 - **Spearheaded** executive selection processes, **conducting 20+ interviews** of undergraduates, evaluating work ethics and communication skills to onboard top talent
 - Designed and Developed Enactus IIT Delhi's Official Website
- **Junior Division Executive, Events and Outreach, Enactus** (April, 2023 - August, 2023)
 - Contributed to a 50% increase in engagement across social media platforms through strategic content creation and interaction.
 - Increased footfall of 200+ active participants by organizing a series of offline and online events, including webinars and workshops.
- **Division manager, Events and Outreach, Enactus** (May, 2024 - Present)
 - Led a **2-tier team** of executives, taking initiatives to enhance social media impact and drive further development

EXTRA CURRICULAR ACTIVITIES

- **Organizing Manager** | **SIB Finnathon** : **Orchestrated** a fintech hackathon involving over 2000 active participants, collaborating with **South Indian Bank** and **OneCard** as tech sponsors
- **Semi-finalists, Enactus Nationals** (July, 2023) : Achieved **3rd place** in a nationwide entrepreneurship competition, competing against 100 colleges, through effective **teamwork** and **collaboration**.
- **Web Development and Design** | enactus-iitd.com | : Designed and developed Enactus IIT Delhi's official website



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IIT COURSE

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COURSES DONE

Physics Laboratory, Intro. To Electrical Engg., Intro. To Computer Science, Linear Algebra & Diffe. Equa., Network Analysis, Analog And Digital Electronics, Semiconductors For Energy Systems, Engineering Thermodynamics, Energy Resources And Utilization, Calculus, Introduction To Materials Science And Engineering, Fundamentals Of Energy Engineering, Electrical Mechanics, Microeconomics, Electromagnetic Waves & Qua.mec., Mechanics Of Solids And Fluids

POSITIONS OF RESPONSIBILITY

- Division Manager, Enactus, OTH (June, 2024 - May, 2025)
- Senior Division Executive, Enactus, OTH (June, 2023 - May, 2024)
- Junior Division Executive, Enactus, OTH (June, 2023 - May, 2024)

EXTRA CURRICULAR ACTIVITIES

- Website, Enactus (July, 2022 - May, 2023)
- Semi-finalists, Enactus Nationals (July, 2022 - May, 2023)
- Organizing Manager, SIB Finnathon Organising Team