



# VIMANSH MAHAJAN

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[LinkedIn](#) | [Portfolio](#) | [Github](#)



## EDUCATION

<b>Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi)</b>	<b>CGPA:</b> 9.19 / 10.00	2022 - Ongoing
<ul style="list-style-type: none"><li><i>Bachelor of Technology (B.Tech.) in Computer Science Engineering (CSE)</i></li><li><i>Achievements:</i> IIITD Dean's List – Academics (2024–25); <b>National Semi-Finalist</b>, Flipkart GRiD 7.0 (2024); <b>Top 5% Finalist</b>, Adobe GenSolve Hackathon 2024; <i>Organiser</i>, TEDxIIITD; <i>Member</i>, Placement Cell; <i>Batch Representative</i>, Student Senate</li></ul>		
<b>The Vivekanand School, Narela, New Delhi</b>	<b>CBSE XII:</b> 97.2%	2022
<ul style="list-style-type: none"><li><i>Achievements:</i> JEE Mains 2022 – <b>99%ile</b> (AIR 9,200); JEE Advanced 2022 – <b>Qualified</b> (AIR 10,109)</li></ul>		
<b>Delhi Public School, Noida</b>	<b>CBSE X:</b> 96.8%	2020

## PROFESSIONAL EXPERIENCE

<b>Bank of New York (BNY)   Software Engineer Intern</b>	May 2025- July 2025
<ul style="list-style-type: none"><li>Built and deployed a <b>content automation platform</b> using <b>Spring Boot</b>, <b>Python-integrated LLM</b>, and <b>Oracle DB</b>, with <b>Angular</b> frontend transforming unstructured finance notes (text/images) into publish-ready articles.</li><li>Implemented <b>domain-aware segmentation</b> and contextual visual placement; containerized and deployed services on <b>Google App Engine</b>.</li></ul>	
<b>Complex Systems (CoSy) Lab   UG Researcher</b>	Jan 2025- May 2025
<ul style="list-style-type: none"><li>Built <b>RecipeGPT</b>, a recipe generation system using the Recipe1M dataset, achieving <b>human-like outputs</b> with <b>BERTScore &gt; 0.85</b> and <b>ROUGE score of 0.32</b>.</li><li>Applied a <b>custom NER model</b> to extract structured ingredient entities, enhancing input consistency and model understanding.</li><li>Developed a <b>3-stage GPT-2 fine-tuning pipeline</b>: pretrained on <b>100k+</b> recipe instructions, conditioned on raw ingredients and titles, then fine-tuned with NER-enhanced inputs using special tokens and label masking.</li></ul>	
<b>TavLab   UG Researcher</b>	Aug 2024- Dec 2024
<ul style="list-style-type: none"><li>Predicted <b>IC50 values for HDAC6 inhibitors</b> using ADMET and BlueDesc datasets by extracting molecular descriptors and evaluating compound efficacy.</li><li>Built and optimized ML models with advanced <b>data preprocessing, feature selection, and statistical analysis</b>, accelerating compound screening and aiding potential drug candidate identification through computational chemistry and bioinformatics.</li></ul>	

## SKILLS

**Tools & Technologies:** Python, Java, C++, Spring Boot, PostgreSQL, Hugging Face Transformers, REST APIs, Git, JUnit, MySQL, Bootstrap

**Technical Skills:** Data Structures, Algorithm Design & Analysis, DBMS, Object-Oriented Programming, Machine Learning (ML), Natural Language Processing (NLP), System Design, Computer Networks, Network Science

**Certification:** [Ethical Hacking](#), [The Complete Python Bootcamp \(Udemy\)](#)

**Soft Skills:** Teamwork, Effective Communication, Adaptability & Rapid Learning, Problem Solving, Efficiency Under Pressure

## PROJECTS

<b><u>Healthcare Answer Summarisation</u></b>   <i>Python, PyTorch, Hugging Face Transformers, LoRA</i>	Apr 2025
<ul style="list-style-type: none"><li>Built a <b>BART-large-CNN + LoRA</b> pipeline to generate perspective-specific summaries (Information, Suggestion, Experience, Question, Cause) from medical Q&amp;A data.</li><li>Designed a dual-head classifier and improved generalisation by selectively fine-tuning on hard examples with an initial BERTScore &lt; 0.84.</li><li>Outperformed a <b>FlanT5 baseline</b> by <b>+3.24 BLEU</b> and <b>+0.0355 BERTScore</b> (final: BLEU 5.61, BERTScore 0.8782).</li></ul>	
<b><u>OptiWealth: Quantitative Portfolio Optimization Platform</u></b>   <i>Spring Boot, Python, yfinance, React, PostgreSQL</i>	Nov 2025
<ul style="list-style-type: none"><li><b>Designed and implemented a distributed portfolio analytics system</b> with Spring Boot backend orchestrating Python microservices, computing multi-portfolio metrics: returns, volatility, Sharpe ratio, VaR/CVaR, beta, max drawdown, and diversification.</li><li><b>Implemented time-series forecasting and risk modelling</b> using ARIMA (price trends), GARCH (volatility), and Monte Carlo simulations, enabling forward-looking scenario analysis.</li><li><b>Developed portfolio optimization pipelines</b> (efficient frontier simulation, max-Sharpe, min-volatility) with scheduled market analysis and AI-generated investment summaries.</li></ul>	
<b><u>Speech-Driven AI Assistant with LLM Integration</u></b>   <i>Python</i>	Dec 2023
<ul style="list-style-type: none"><li>Developed a speech-driven AI assistant integrating LLM-based response generation with real-time voice input.</li><li>Integrated <b>speech recognition</b> and <b>pyttsx3</b> for accurate voice input and natural responses, enabling a seamless user experience.</li></ul>	

## EXTRACURRICULARS

- Coding Platforms:** [Leetcode](#), [Codeforces](#) (Pupil- Max Rating: 1275)
- Hobbies:** Debate, Fitness, Badminton
- Volunteering Experience:** Volunteer at Seva Sankalp NGO