

# AMAN KUMAR

Final Year Undergraduate  
Major in Chemical Engineering | Minor in Linguistic Theory

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## ACADEMIC QUALIFICATIONS

Year	Degree/Certificate	Institute	CPI/%
2021 - Present	B.Tech	Indian Institute of Technology Kanpur	7.1/10.0
2021	Class XII(CBSE)	Mithila Public School, Araria	88.2%
2019	Class X(CBSE)	Araria Public School, Araria	92.8%

## SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 3955** in **Joint Entrance Examination Advanced 2021** among **0.2M** shortlisted candidates
- Secured **All India Rank 6341** in **Joint Entrance Examination Mains 2021** among more than **1.2M** candidates
- Received **Best Project Award** in **Manufacturing Processes I** for the outstanding group project, Spring 2023 semester
- Qualified for **Regional Mathematics Olympiad (RMO) 2019**, organized by Homi Bhabha Centre for Science Education

## WORK EXPERIENCE

Data Science Intern   <i>My Analytics School</i>		(May'24-Jul'24)
Objective	To develop <b>RAG-based</b> chatbot for querying data on <b>100+</b> companies, aiding freshers in their job applications	
Approach	<ul style="list-style-type: none"><li>Collected relevant data through <b>web scraping</b> using <b>BeautifulSoup</b>, gathering key metrics from the companies</li><li>Architected the chatbot using <b>LangChain</b>, <b>Ollama</b> frameworks, <b>ChromaDB</b> and <b>LLMs</b> for the <b>embeddings</b></li><li>Enhanced its performance by initiating the <b>Cross Encoder</b> as a <b>Re-Ranker</b> and achieved an accuracy of <b>92%</b></li><li><b>Deployed</b> a user-centric solution on <b>AWS EC2</b>, featuring a <b>Streamlit</b> app interface for seamless interaction</li></ul>	
Impact	<ul style="list-style-type: none"><li>Engineered the scalable chatbot assisting <b>200+</b> freshers on the platform with accurate company <b>comparisons</b></li><li>Drove a <b>20%</b> surge in active student <b>engagement</b> by spearheading widespread adoption of the platform's tools</li></ul>	

Software Development Intern   <i>Testline Edutech</i>		(Jul'24-Aug'24)
Objective	To develop an automated image processing <b>framework</b> using advanced techniques, enhancing <b>OCR</b> accuracy	
Approach	<ul style="list-style-type: none"><li>Optimized image preprocessing using <b>adaptive thresholding</b>, improving <b>performance</b> and <b>text readability</b></li><li>Developed a <b>FastAPI</b> backend for efficient extraction of text and structured the output using <b>regex</b> parsing</li><li>Leveraged <b>OpenCV</b> for image preprocessing to <b>maximize clarity</b>, enhancing the overall extraction <b>accuracy</b></li></ul>	
Impact	<ul style="list-style-type: none"><li>Automated text parsing with <b>95%</b> accuracy, reducing <b>manual work</b> by <b>30%</b> leading to unique <b>user acquisition</b></li><li>Resulting integrated model <b>improved</b> detection speed by <b>72%</b> compared to the latest benchmark at the company</li></ul>	

## KEY PROJECTS

Mathematical Trading Strategies   <i>Stamatics, IITK</i> 🌐		(May'23 - Jul'23)
<ul style="list-style-type: none"><li>Leveraged <b>10 years</b> of data, using advanced strategies, to accurately forecast trends, <b>optimizing</b> strategy efficiency by <b>20%</b></li><li>Implemented technical indicators such as <b>Keltner Channel</b>, <b>Bollinger Bands</b>, and <b>MACD</b> for making trading decisions</li><li>Utilized the statistical concepts and metrics, including <b>Sharpe ratio</b> and <b>Sortino ratio</b>, leading to a <b>34%</b> increase in ROI</li></ul>		
Image to Image Translation with a Conditional GAN   <i>Self Project</i> 🌐		(Jun'24 - Aug'24)
<ul style="list-style-type: none"><li>Engineered and trained a <b>Pix2Pix GAN model</b> using <b>U-Net generator</b> and <b>PatchGAN discriminator</b> architectures</li><li>Processed <b>1096 facade images(256x256x3)</b> for training, ensuring high-quality data for the precise performance of model</li><li>Optimized model accuracy by <b>65%</b> with advanced hyperparameter <b>tuning</b> and regularization for realistic transformations</li></ul>		
Sales Data SQL - Tableau Analysis   <i>Self Project</i> 🌐		(Jun'24 - Jul'24)
<ul style="list-style-type: none"><li>Extracted and transformed <b>sales data</b> from SQL using advanced queries, enabling real-time <b>insights</b> for business decisions</li><li>Conducted <b>data cleaning, merging</b>, and calculated key metrics like revenue &amp; profit margins, ensuring <b>precise analysis</b></li><li>Created <b>interactive</b> dashboards in <b>Tableau</b>, visualizing <b>performance</b> leading to <b>16%</b> increase in sales tracking accuracy</li><li>Delivered actionable recommendations, driving <b>improvements in sales strategies</b> and <b>revenue growth</b> for stakeholders</li></ul>		

## TECHNICAL SKILLS

Programming Skills/Utilities	Tools/Libraries
C, C++, Python, HTML, CSS, JavaScript, SQL, MATLAB	PowerBI, Excel, Sklearn, TensorFlow, Keras, PyTorch

## RELEVANT COURSES

\*Ongoing

Fundamentals of Computing	Image Processing	Linear Algebra and ODE
Computational Methods in Engineering	Introduction to Electronics	Embedded and Cyber-physical Systems*

## POSITIONS OF RESPONSIBILITY

Head of Hospitality and Transport   <b>Udghosh'24: Annual Sports Festival, IIT Kanpur</b>	(May'24-present)
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Leadership	<ul style="list-style-type: none"><li>Core Team Member of one of <b>Asia's Largest</b> College Sports Festivals with an estimated budget of <b>INR 10M</b></li><li>Leading a <b>4-tier</b> team of <b>100+</b> executives responsible for proper hospitality of <b>2000+</b> participants and guests</li></ul>
Initiatives	<ul style="list-style-type: none"><li>Launched <b>PAN India</b> Campus Ambassador Program, receiving <b>3000+</b> participants and offering internships</li></ul>
Impact	<ul style="list-style-type: none"><li>Witnessing a <b>200%</b> YoY increase in participation from <b>top colleges</b> and B-Schools including IIMs across India</li></ul>

## EXTRA-CURRICULAR ACTIVITIES

Cultural	<ul style="list-style-type: none"><li>Represented <b>IIT Kanpur</b> as a team member in the <b>Inter IIT Cultural Meet 5.0</b> held at <b>IIT Madras</b></li></ul>
Competition	<ul style="list-style-type: none"><li>Secured <b>2nd Place</b> in Pre-Orientation Competition hosted by <b>Hindi Sahitya Sabha</b>, a word puzzle event</li></ul>