

EDUCATIONAL QUALIFICATIONS

| Year | Qualification | Institute | Performance |
|-----------|--|---------------------------------------|-------------|
| 2021-2025 | B.Tech - Mechanical Engineering Minor – Eng Literature | Indian Institute of Technology Kanpur | 8.0/10.0 |
| 2021 | Class XII, Maharashtra State Board | Pace Junior Science College, Nerul | 95.2% |
| 2019 | Class X, CBSE Board | D.A.V Public School, Nerul | 94.0% |

ACHIEVEMENTS

- Secured **All India Rank 2666** in JEE Advanced 2021 and **All India Rank 5044** in JEE Mains 2021 amongst **9.2 lakh candidates**2021
- Secured **All India Rank 102** in All India Open Mathematics Scholarship Examination by IPM among **50K+ candidates**2020
- Received the **Academic Excellence Award** for exceptional academic performance in the **2020-21** academic session2021
- Selected for **SMSS Lab Summer Internship 2023** from **60+ candidates** under **Dr. Bishakh Bhattacharya, HAL Chair Professor**2023

WORK EXPERIENCE

Product Development Internship | Medantrik (MedTech Start-Up)May'24-Jul'24

Received Pre-Placement Offer (PPO) for exceptional performance

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| Objective | <ul style="list-style-type: none">• Develop algorithm for portable lung health device, achieving cost-effectiveness with BEP of 4 hospital tests, saving ₹1.3K/test• Engineered cost-effective portable lung diagnosis device, driving technical solutions with CTO for successful market launch |
| Strategy | <ul style="list-style-type: none">• Calibrated device to map RPM to breath flow rate using prototype at National Wind Tunnel IITK, informed 5+ research papers• Built a hospital prototype and interface, collecting 10+ datapoints from 200+ patients, boosting algorithm accuracy by 12%• Integrated hospital data (SQL Server) with GLI metrics, applying RandomForest to predict ideal lung health parameters• Spearheaded end-to-end design of health camps with 1K+ footfall and represented team in ASEAN-India ScaleHub 2024, Bali• Oversaw marketing and design for health camps with 1K+ footfall and represented team for ASEAN-India ScaleHub 2024, Bali |
| Impact | <ul style="list-style-type: none">• Co-invented patent-pending device; projected sales of ₹30cr revenue (50K units) by Apr, launch expected in Sept (Delhi-NCR)• Generated lung report (19 parameters+4 graphs) via proprietary algo, classifying lung health into 4 categories (96% accuracy)• Cost-effective lung diagnosis device priced at ₹6K, enabling unlimited tests compared to ₹1.5K per spirometry test in hospital |

Product Management Internship | Foruppo (Autonomus Start-Up EcoSystem)May'24-Jul'24

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| Product 1: Wizoona (Co-creator) | <ul style="list-style-type: none">• Pioneered India's 1st community-led holistic education startup to empower young adults with comprehensive life education• Crafted value proposition, customer segmentation, GTM strategy of 'Wizoona' ensuring customer acquisition and retention |
| Product 2: Urrban Tailor | <ul style="list-style-type: none">• Led Urrban Tailor's (personalized outfit selector) development, concept to Product Hunt launch, managing an 8-member team• Developed a dynamic selection framework across 5 dimensions on wordpress, enhancing user interaction and personalization |

CrowdFunding Internship | Muskurahat Foundation (A Youth NGO)Jan'23-Mar'23

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| Key Highlights | <ul style="list-style-type: none">• Execute crowdfunding campaigns to raise funds for children's education and the protection of child rights• Impacted lives of 450+ children in Mumbai and Jharkhand, through the funds raised and received a merit certificate |
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KEY PROJECT

Yoga Asana Prediction and Feedback Generation | Dr. Tushar Sandhan, EE, IIT Kanpur🔗Jan'24-May'24

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| Objective | <ul style="list-style-type: none">• Enhance self-guided yoga practice with a deep learning model, classifying yoga asanas and providing real-time feedback |
| Strategy | <ul style="list-style-type: none">• Engineered hybrid CNN-LSTM model capturing spatial and temporal features, trained on 88 videos from diverse datasets• Utilized OpenCV for video processing, MediaPipe for pose landmark extraction, Keras with TensorFlow for model training• Conducted angular vector analyses to compare user poses with ideal poses, and implemented a feedback mechanism |
| Result | <ul style="list-style-type: none">• Classified videos into 6 asanas, achieving a framewise accuracy of 99.05%, with polling improving accuracy to 99.66%• Enabled precise feedback by demonstrating the closest intermediate poses from input videos; comparing them to ideal poses |

Forecasting using time-series Analysis | Stamatics, IIT Kanpur🔗May'23-Jul'23

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| Objective | <ul style="list-style-type: none">• Develop and compare predictive models for air quality and stock prices using time-series analysis to optimize accuracy |
| Strategy | <ul style="list-style-type: none">• Applied ADF test, ACF test, Box-Cox transformation for the stationarity, normality, homoscedasticity on 7+ time series• Decomposed a time-series into its trend, seasonality, cyclicity using HP filter and tested stationarity using ADF statistical test• Conducted statistical normality tests and utilized ACF and PACF analysis to determine order of AR and MA models |
| Result | <ul style="list-style-type: none">• Achieved a MAPE of 0.0153 and 98.5% accuracy in predicting Apple INC. stock prices using Auto ARIMA on 1405 observations• Reduces prediction errors with ARIMA, SARIMAX models, achieving 97.1% accuracy in Beijing air quality forecasting |

Image processing (Course Project) | Dr. Tushar Sandhan, EE, IIT Kanpur🔗Aug'23 – Nov'23


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| Objective | <ul style="list-style-type: none">• Solve 6 problem statements and execute algorithms using Numpy and OpenCV library, with the help of reference papers |
| Strategy | <ul style="list-style-type: none">• Wrote algorithm for jointbilateralfilter using reference paper and 5+ research papers for flash/no-flash image pair dataset• Implemented edge detection using Canny Edge and Hough Transform, and executed segmentation with 4+ algorithms• Applied masking, non-linear and spatial filters; executed contour detection, compression and multi-resolution image denoising |
| Result | <ul style="list-style-type: none">• Executed 10+ image processing algorithm with average accuracy over 86% and received an A grade |

Machine Learning Mini Projects (Course Project) | Dr. Purushottam Kar, CSE, IIT KanpurJan'24 – May'24

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| XORRO | <ul style="list-style-type: none">• Derived a linear mathematical simplification modeling a XORRO PUF with 8 multiplexers, using Khatri-Rao product• Developed a linear ensemble model built from SVC and logistic regression methods, achieving highest accuracy of 99.33% |
| Hangman | <ul style="list-style-type: none">• Implemented information-theoretic algorithms greedily maximizing the number of nodes, resulting in entropy reduction• Trained a 100% accurate decision tree model on a dictionary with 6K+ data points, effectively simulating Hangman gameplay |
| Sensor | <ul style="list-style-type: none">• Developed a ridge linear model calibrating the voltages recorded by the ozone and nitrogen dioxide sensors accurately• Reduced the MAE by using Kernel Ridge non-linear model with an adaptive learning rate & ϵ-insensitive loss function |

Brand Repositioning Strategy (Course Project) | Prof. Amit Shukla, IME, IIT Kanpur🔗May'23-Jul'23

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| Objective | <ul style="list-style-type: none">• Redefine and strengthen boAt's brand positioning to better align with emerging markets and evolving consumer preferences |
| Strategy | <ul style="list-style-type: none">• Analyzed boAt's value chain; identified 5 key levers to drive business growth amidst 3 rivals dominating 50% market share |

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| | <ul style="list-style-type: none">Generated insights with 4P, PESTEL, and SWOT framework and prioritised them using RICE and MoSCoW frameworks | | | |
| Result | <ul style="list-style-type: none">Crafted strategic video advertisement that elevated brand perception, validated through insights from 80+ survey responsesFormulated a brand extension concept for boAt, launching a musical instrument product line to target adjacent markets | | | |
| JP Morgan Chase Co.— Investment Banking (<i>by Forage</i>) <div>Jul'24</div> | | | | |
| Key Highlights | <ul style="list-style-type: none">Analysed and provided targets for Mergers & Acquisition targets a US-based Brewing firm for expansion over a new marketPerformed Data Analysis with a summary of target based on financial statements, bidding process, estimated valuationFormulated a DCF Model to finalize the offer price to value a target based on financial forecasts and assumptions providedRevised the Model for a new bid due to change in circumstances and compared it with competitive bidder for the final price | | | |
| Chat With Multiple-PDFs (<i>Self Project</i>)  <div>Aug'24</div> | | | | |
| Objective | <ul style="list-style-type: none">Develop contextually responsive chatbot to answer user queries, extracting and processing text from multiple PDFs | | | |
| Strategy | <ul style="list-style-type: none">Leveraged PyPDF2, LangChain, FAISS for text extraction, embedding, and retrieval, with OpenAI and Hugging Face modelsDesigned an interface with Streamlit to support file uploads, handle user queries, and responses generated by the chatbot | | | |
| Result | <ul style="list-style-type: none">Achieved a 90% accuracy rate in query responses across PDF document types, processing up to 200 pages per document | | | |
| Customer Insights Through RFM Analysis Mentor – Ninad Mirajgoakar, Consultant, GEP Worldwide <div>Nov'23 – Dec'23</div> | | | | |
| Objective | <ul style="list-style-type: none">Segment customers on recency, frequency, monetary value, purchase history (RFM) to develop targeted marketing strategies | | | |
| Strategy | <ul style="list-style-type: none">Used K-means clustering to group 500K+ customers as high-value loyal, low-value loyal, infrequent, and churned segmentsEmployed elbow method and silhouette analysis to validate the optimal number of clusters required for segmentationVisualised data and devised metrics like revenue share, average RFM per segment, customer lifetime value to derive insights | | | |
| Result | <ul style="list-style-type: none">Identified infrequent (50%) and high-value loyal customers (45%) as major contributors to net revenue and business growth | | | |
| LEADERSHIP EXPERIENCE | | | | |
| Coordinator, Dance Club (KOS) IIT Kanpur <div>May'23 – May'24</div> | | | | |
| Felicitated with Certificate of Appreciation by the <i>Director, IIT-K</i> for recognition as Coordinator, Dance Club, IIT Kanpur | | | | |
| Leadership | <ul style="list-style-type: none">Directed a 3-tier team of 50+ in 4 national-level competitions and coordinated 7 campus events with 2K+ average footfallManaged club finances of INR 1.2L and generated over INR 30K in additional revenue by organizing diverse workshops | | | |
| Initiatives | <ul style="list-style-type: none">Organized 7-day Summer Workshop series by tier-1 artist separately in two shifts for 50+ beginners and 30+ team membersCrafted a dynamic 10-minute showcase at the PG Orientation that successfully drew 1.8x more PG students in the Club | | | |
| Impact | <ul style="list-style-type: none">Achieved a historic milestone by becoming the 1st dance team from any IIT to qualify for Indian HipHop Championship finalsGarnered over 12 million+ views and amassed an impressive 40K+ subscriber base on the official Dance Club, IITK YT channel | | | |
| RELEVANT COURSES | | | | |
| Image processing | | Marketing Management | Integrated Product Development - I (<i>ongoing</i>) | |
| Introduction to Machine Learning | | Linear Algebra and ODE | Partial Differential Equations | |
| TECHNICAL SKILLS | | | | |
| <div><div><ul style="list-style-type: none">Programming Languages: C++, Python, HTML, CSS, LaTeX, SQLSoftware & Utilities: Fusion360, Adobe Illustrator, Adobe Photoshop, Adobe LightRoom, Microsoft Excel, Canva</div><div><ul style="list-style-type: none">Data Science & ML: TensorFlow, Keras, NumPy, Pandas, Matplotlib, Scikit-learn, Statsmodels, OpenCV, LangChain, Streamlit</div></div> | | | | |
| EXTRA-CURRICULAR ACTIVITIES | | | | |
| Category | Competition | Achievements | Level | Year |
| Performing Arts: Dance | Inter-IIT Cultural Meet | <i>Led the contingent which secured,</i> <ul style="list-style-type: none">3rd position in dance battle category at IIT Madras3rd position in group dance category at IIT Madras | Inter-IIT | 2023 |
| | Antaragni, IIT Kanpur | <ul style="list-style-type: none">2nd position out of 30+ teams in group dance category2nd position out of 30+ teams in dance drama category | National | 2023 |
| | Antaragni, IIT Kanpur | <ul style="list-style-type: none">1st position out of 30+ teams in group dance category1st position out of 30+ teams in dance drama category3rd position out of 10+ teams in dance battle category | National | 2022 |
| | Thomso, IIT Roorkee | <ul style="list-style-type: none">3rd position out of 30+ teams in dance drama category | National | 2022 |
| Social Work | <ul style="list-style-type: none">Tutored 20 underprivileged children in Math and English of class 5th and 6th through Prayas, IITKMobilized funds to support children's education at Muskurahat Foundation (NGO) earning a merit certificateConducted Flashmob with sapling distribution on World Environment Day to spread environmental awareness | | | 2022 |
| Networking | <ul style="list-style-type: none">Campus Ambassador at Acmegrade(E-Learning platform): Led 6+ successful campaigns, gaining 100+ clients | | | 2022-23 |
| Managerial | <ul style="list-style-type: none">Senior Executive (Hospitality), Techkriti - Lead a team of 50+ Junior Executives and conducted exuberant eventsSecretary, Dance Club: Choreographed dance sequence for 35 freshers and managed 80+ performances at DE'23 | | | 2022 |