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| **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 session *2021* | | | | | | | | | | |
| * 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* | | | | | | |  | | | |
| *Objective* | * 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* | * 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* | * 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* | | | | | | | | | | |
| *Product 1:*  ***Wizoona******(Co-creator****)* | * 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*** | * 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* | | | | | | | | | | |
| *Key Highlights* | * 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** | | | | | | | | | |
| **KEY PROJECT** | | | | | | | | | | |
| **Yoga Asana Prediction and Feedback Generation | *Dr. Tushar Sandhan, EE, IIT Kanpur*** | | | | | | | *Jan’24-May’24* | | | |
| *Objective* | * Enhance self-guided yoga practice with a **deep learning model**, classifying yoga asanas and providing **real-time feedback** | | | | | | | | | |
| *Strategy* | * 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* | * 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* | | | | | | | | | | |
| *Objective* | * Develop and compare predictive models for **air quality and stock prices** using time-series analysis to optimize accuracy | | | | | | | | | |
| *Strategy* | * 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* | * 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* | | | | | | | | | | |
| *Objective* | * Solve **6 problem statements** and execute algorithms using **Numpy** and **OpenCV library**, with the help of reference papers | | | | | | | | | |
| *Strategy* | * 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* | * 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 Kanpur*** *Jan’24 – May’24* | | | | | | | | | | |
| *XORRO* | * 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* | * 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* | * 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* | | | | | | | | | | |
| *Objective* | * Redefine and strengthen **boAt’s brand positioning** to better align with emerging markets and evolving consumer preferences | | | | | | | | | |
| *Strategy* | * Analyzed boAt's value chain; identified **5 key levers** to drive business growth amidst **3 rivals** dominating **50% market share** * Generated insights with **4P, PESTEL,** **and SWOT** framework and prioritised them using **RICE** and **MoSCoW** frameworks | | | | | | | | | |
| *Result* | * Crafted strategic **video advertisement** that elevated brand perception, validated through insights from **80+ survey responses** * Formulated a **brand extension** concept for boAt, launching a **musical instrument product line** to target adjacent markets | | | | | | | | | |
| **JP Morgan Chase Co.— Investment Banking *(by Forage)*** *Jul’24* | | | | | | | | | | |
| *Key Highlights* | **•** Analysed and provided targets for **Mergers & Acquisition** targets a US-based Brewing firm for expansion over a new market   * Performed Data Analysis with a summary of target based on **financial statements, bidding process, estimated valuation** * Formulated a **DCF Model** to finalize the offer price to value a target based on financial forecasts and assumptions provided * Revised 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 *(Self Project)*** *Aug’24* | | | | | | | | | | |
| *Objective* | * Develop **contextually responsive** **chatbot** to answer user queries, extracting and processing text from **multiple PDFs** | | | | | | | | | |
| *Strategy* | * Leveraged **PyPDF2, LangChain, FAISS** for text extraction, embedding, and retrieval, with **OpenAI and Hugging Face models** * Designed an **interface** with **Streamlit** to support file uploads, handle user queries, and responses generated by the chatbot | | | | | | | | | |
| *Result* | * 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***Nov’23 – Dec’23* | | | | | | | | | | |
| *Objective* | * Segment customers on recency, frequency, monetary value, purchase history (RFM) to develop targeted marketing strategies | | | | | | | | | |
| *Strategy* | * Used **K-means clustering** to group **500K+** customers as high-value loyal, low-value loyal, infrequent, and churned segments * Employed **elbow method** and **silhouette analysis** to validate the optimal number of clusters required for segmentation * Visualised data and devised metrics like revenue share, **average RFM per segment**, customer lifetime value to derive insights | | | | | | | | | |
| *Result* | * 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*** *May’23 – May’24* | | | | | | | | | | |
| *Felicitated with Certificate of Appreciation by the* ***Director, IIT-K*** *for recognition as Coordinator, Dance Club, IIT Kanpur* | | | | | | | | | | |
| *Leadership* | * Directed a **3-tier team of 50+** in **4 national-level competitions** and coordinated **7 campus events** with **2K+ average footfall** * Managed club finances of **INR 1.2L** and generated over **INR 30K** in additional revenue by organizing diverse workshops | | | | | | | | | |
| *Initiatives* | * Organized **7-day Summer Workshop** series by tier-1 artist separately in two shifts for **50+ beginners** and **30+ team members** * Crafted a dynamic **10-minute showcase** at the PG Orientation that successfully drew **1.8x** **more** PG students in the Club | | | | | | | | | |
| *Impact* | * Achieved a **historic milestone** by becoming the **1st dance team** from any IIT to qualify for **Indian HipHop Championship finals** * Garnered 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 *(ongoing)* | | | | |
| Introduction to Machine Learning | | Linear Algebra and ODE | | | | Partial Differential Equations | | | | |
| **TECHNICAL SKILLS** | | | | | | | | | | |
| • **Programming Languages**: C++, Python, HTML, CSS, LaTeX, SQL  • **Software & Utilities**: Fusion360, Adobe Illustrator, Adobe Photoshop, Adobe LightRoom, Microsoft Excel, Canva | | | | * **Data Science & ML**: TensorFlow, Keras, NumPy, Pandas, Matplotlib, Scikit-learn, Statsmodels, OpenCV, LangChain, Streamlit | | | | | | |
| **EXTRA-CURRICULAR ACTIVITIES** | | | | | | | | | | |
| **Category** | **Competition** | | **Achievements** | | | | | **Level** | | **Year** |
| *Performing Arts:*  *Dance* | **Inter-IIT Cultural Meet** | | *Led the contingent which secured,*   * **3rd position** in dance battle category at IIT Madras * **3rd position** in group dance category at IIT Madras | | | | | **Inter-IIT** | | *2023* |
| **Antaragni, IIT Kanpur** | | * **2nd position** out of **30+** teams in group dance category * **2nd position** out of **30+** teams in dance drama category | | | | | **National** | | *2023* |
| **Antaragni, IIT Kanpur** | | * **1st position** out of **30+** teams in group dance category * **1st position** out of **30+** teams in dance drama category * **3rd position** out of **10+** teams in dance battle category | | | | | **National** | | *2022* |
| **Thomso, IIT Roorkee** | | * **3rd position** out of **30+** teams in dance drama category | | | | | **National** | | *2022* |
| *Social Work* | • Tutored **20 underprivileged children** in Math and English of class 5th and 6th through **Prayas, IITK**   * Mobilized funds to support children's education at **Muskurahat Foundation (NGO)** earning a **merit certificate** * Conducted **Flashmob** with sapling distribution on **World Environment Day** to spread environmental awareness | | | | | | | | | *2022* |
| *Networking* | • Campus Ambassador at **Acmegrade*(E-Learning platform)****:* Led **6+ successful campaigns**, gaining **100+ clients** | | | | | | | | | *2022-23* |
| *Managerial* | • **Senior Executive (Hospitality), Techkriti** - Lead a team of **50+ Junior Executives** and conducted exuberant events   * **Secretary, Dance Club**: Choreographed dance sequence for **35 freshers** and managed **80+ performances** at DE’23 | | | | | | | | | *2022* |