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| **Kaustav Dasgupta** | | | | | kaustavd21@iitk.ac.in **|** +91-989213934 **|** Kaustav Dasgupta | | | | | |
| **EDUCATIONAL QUALIFICATIONS** | | | | | | | | | | |
| **Year** | **Qualification** | | | | **Institute** | | | **Performance** | |
| 2021-2025 | B.Tech - Mechanical Engineering | Minor – English 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%** | |
| **SCHOLASTIC 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* | | | | | | | | | | |
| **WORK EXPERIENCE** | | | | | | | | | | |
| **Product Development Internship** |*Medantrik* *(MedTech Start-Up)* | | | | | | *Jun’24-Aug’24* | | | | |
| *Received Pre-Placement Offer (PPO) for exceptional performance* | | | | | |  | | | | |
| *Objective* | | * Develop algorithm for **portable lung health device**, a personalized appliance for monitoring and managing respiratory diseases | | | | | | | | |
| *Execution* | | * Calibrated device to map RPM to breath flow rate using prototype at **National Wind Tunnel IITK**, informed **5+research papers** * Boosted algorithm accuracy by **12%** by building hospital prototype and interface, collecting **10+ datapoints** from **200+ patients** * Integrated hospital data **(SQL Server)** with GLI metrics, applying **Random Forest** to predict ideal lung health parameters | | | | | | | | |
| *Impact* | | * Spearheaded **8-member team** to develop Urrban Tailor, a personalized outfit selector, from concept to **Product Hunt launch** * Generated lung report **(19 parameters**+**4 graphs)** via proprietary algo, classifying lung health into **4 categories** **(96% accuracy)** | | | | | | | | |
| **Product Management Internship** |*Foruppo (Autonomous Start-Up Ecosystem) May’24-Jun’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*** | | * Spearheaded **8-member team** to develop Urrban Tailor, a personalized outfit selector, from concept to **Product Hunt launch** * Developed a dynamic selection framework across **5 dimensions** on **WordPress**, enhancing user interaction and personalization | | | | | | | | |
| **RELEVANT PROJECTS** | | | | | | | | | | |
| **Yoga Pose 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 | | | | | | | | |
| *Outcome* | | * Reached **99.05%** accuracy, boosted to **99.66%** with polling, classifying videos into **6 asanas** and providing **effective feedback** | | | | | | | | |
| **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, ACF test, Box-Cox transformation** for the stationarity, normality, homoscedasticity on **7+time series** datasets * Decomposed time-series into **trend, seasonality, cyclicity** using **HP filter**; analyzed **AR/MA orders** using **PACF, normality tests** | | | | | | | | |
| *Outcome* | | * 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** | | | | | | | | |
| **Introduction to Machine Learning** |*Dr. Purushottam Kar* | *CSE, IIT Kanpur*| *Course Project 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 | | | | | | | | |
| **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 | | | | | | | | |
| *Outcome* | | * Achieved a **90% accuracy** rate in query responses across PDF document types, processing up to **200 pages per document** | | | | | | | | |
| **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 a **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** | | | | | | | | | |
| **TECHNICAL SKILLS** | | | | | | | | | | |
| • **Programming Languages**: C++, Python, HTML, CSS, LaTeX, SQL  • **Software & Utilities**: Illustrator, Photoshop, LightRoom, Excel, Canva | | | | * **Data Science & ML**: TensorFlow, Keras, NumPy, Pandas, Matplotlib, Scikit-learn, Statsmodels, OpenCV, LangChain, Streamlit | | | | | | |
| **EXTRA-CURRICULAR ACTIVITIES** | | | | | | | | | | |
| *Performing Arts* | **Inter-IIT Cult Meet** | | * **3rd position** in group dance category | | * **3rd position** in dance battle category | | **Inter-IIT** | | *2023* | |
| **Antaragni, IITK** | | * **1st position** in group dance category | | * **1st position** in dance drama category | | **National** | | *2023* | |
| *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** | | | | | | | | *2022* | |