Satyansha Dev
Department of Electrical Engineering

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Academic Qualifications

Year	Degree/Certificate	Institute	CPI/%
2020 - Present	B.Tech	**Indian Institute of Technology Kanpur**	7.0/10.0
2020	Class XII (CBSE)	Milton Public School, Agra	88.2%
2018	Class X (CBSE)	Saraswati Vidya Mandir, Etah	97.6%

Scholastic Achievements

- Secured **SC Rank 719** in **IIT - Joint Entrance Examination (JEE) Advanced,** 2020 among the 1.6 lakh shortlisted candidates
- Secured **SC Rank 1643** in **IIT - Joint Entrance Examination (JEE) Main,** 2020 among the 10.23 lakh shortlisted candidates
- Secured **SC Rank 34** in **Uttar Pradesh State Entrance Examination, 2020** among 0.75 lakh shortlisted candidates
- Received **Academic Recognition** award for securing District Rank **6** and School Rank 1 in **Class 10th** with **97.6 %** in 2018
- Received **Scholarship** for outstanding academic performance in Young Talent Search Exam, conducted by Akash Institute

Professional Experience

Wind Power Prediction using ML algorithms | Project - SURGE 2022 *Dec'21 - Present*
Mentor: **Professor M. V. Gururaj,** *Dep. of Electrical Engineering | Students-Undergraduate Research Graduate Excellence Program*

Aim	• Creating a model to **predict** the **wind energy** generation for power system reliability and balancing supply and demand
Tasks	• Analyzing the **data-sets** having features **humidity, wind-speed, solar irradiance** and **power** • Performing various **data mining** techniques to **pre-processing** the data, to further develop models for prediction
Progress	• Researched about the various **wind power prediction** techniques and **data-sets** for **training** and **testing** the model • Studied various **data cleaning** and **preprocessing** techniques to analyze data-sets and **correlation** in the attributes • Applying regression and neural network techniques, studying **ResNet** to build prediction **models** to further test and train it

Key Projects

Introduction to Deep Learning and its Applications | Stamatics IITK *May'22 - Present*
- **Aim:** Learning basics of **Linear Algebra** and related concepts in **Deep Learning** and **Neural Networks** and implement models
- Learnt and implemented a **CNN** on the Cifar-10 dataset and an **RNN** algortihm on MNIST dataset for classification
- Read papers on the **mask-RNN algorithm** and implemented it using **TensorFLow** and **Keras** for modeling sequence data

Introduction to GameDev | Science and Technology Council, IITK *Jul'21 - Sept'21*
- **Developer and Artist**: Developed a FPS game with 5 teammates suitable for Windows and with capacity to be expanded for androids
- Designed and developed the game **The Z** using **unity**, blender, visual studio and illustrator with complex and exploratory game environment

IPO Analysis using FLS | Finance and Analytics Club, IITK *Jun'22 - Present*
- Analyse and grade an Initial Public Offering using fundamental analysis and **Forward Looking Statements** with analytic approach
- Used the theory in **Naive Bayesian** ML classifier to grade the tones of MD and a sections of a firm's DRHP using machine learning

Key Academic Projects

Data Mining and Knowledge Discovery | Mentored by Prof. Faiz hamid, IITK *Jun'22 - Present*
- Aim: Devise a **model** using several user surveys to assess the possibility of a **customer instantly liking or disliking a deodorant**
- Analysed the data using various techniques like **data visualization** and **chi square** test and applying **PCA** to further process the data
- Devising the **model** using **Logistic Regression** and **Neural Network** techniques to **train** and test it with data-sets

Quad-copter Design Projec | Mentored by Prof. Shashank Shekhar, IITK *Aug'21 - Oct'21*
- Aim: Design and build a physical structure of the quad-rotor aircraft, **Quad-copter** with mounted camera that was capable of stable flight
- Making **Isometric drawings** of the project and **sectional drawings** of the individual components to further construct the **3D model**
- **Modeling** the complete quad-copter drone on **Autodesk Fusion 360** using **multi-view** drawings and **2D** representation to **3D model**

Work Experience

UnchAI | JEE Mentor *Jan'21 - Aug'21*
- Tutored in UnchaAI, a **tech-ed startup** by **IITK** and **NITP** alumni, which provides a **mentorship platform** to **JEE aspirants**
- Mentored JEE aspirants with their **PCM** doubts, designed a **customized time table & metric** to track their performance **periodically**

Self Projects

Telecom Churn Data | Kaggle Submission *Jun'22 - Present*
- Aim: **Predict behavior to retain customers** through Customer account information in **IBM Sample Data Sets** from Kaggle
- Analyzed all relevant customer data by techniques like data visualization, preprocessing and developed customer retention programs

Positions of Responsibility

Core Team Member | Counselling Service, IITK   *Mar'22 - Present*

Leadership	• Part of 10 member team responsible to envision, plan and organise Remedial classes, Hall level classes, Mentor allotment • **Guided the team** to work as a unit aimed at assisting the **Research Community** in fulfilling it's needs
Initiative	• Introduced **Student Spotlight** to create more awareness about **remote research** amidst the **global pandemic** • Guided a team of **3 secretaries** to edit blogs for Student Spotlight on **Research Wing's** website
Impact	• Conducted sessions targeted for **UG community** to increase interaction with **alumni** in **research community** • Successfully hosted **InVar sessions** (Industry vs Research) to help students **explore various career prospects**

Senior Election Officer | Election Commission, IITK   *Apr'21 - Jan'22*
- Led a team of 100+ Election Officers, ensuring the smooth conduction of the biggest **Students' Gymkhana** Elections and **HEC** elections
- Worked in a **4-tier** self-governed body to successfully foster the **democratic spirit** for **free and fair** elections in polling booths
- Successfully monitored the campaigning of 45+ candidates and verified their manifestos as per the Code of Conduct

Student Guide | Counselling Service IITK   *Oct'21 - Present*
- Provided **guidance and emotional support** to a group of **five freshers** by helping them in registration and transition to college life
- Helped in organising the **Orientation program** for **1200+** freshers in a **2 day schedule** for the year **2021-2022**

Secretary | , Outreach Cell, IITK   *Mar'21-Jan'22*
- Contributed to the crucial avenues of strengthening student-alumni relations and organized outreach programs in IITK campus
- Managed the conduction of sessions and networking programs for career guidance and mentor-ship for the development of alumni relations

Secretary | Fine Arts Club, IITK   *May'21 - Jan'22*
- Promoted creativity and experimentation among artists by workshops, promoting all art techniques, including origami and coffee painting
- Collaborated with **Book Club**, MnC council and organized a competition, **Spill the Ink** that included designing book covers

Secretary | Unmukt, Community Welfare Society, IITK   *Mar'21 - MAy'22*
- Conducted awareness and critical thinking sessions on all issues of gender and sexuality through posts, art competitions and movie screenings
- Contributed in conduction of **2** competitions and **3 Pride Month'21 events** in which eminent speakers were invited from all over India

Relevant Coursework

Data Mining and Knowledge Discovery	Fundamentals of Computing	Linear Algebra & Ordinary DE
Fundamentals of Programming	Microelectronics	Manufacturing Processes
Engineering Graphics and Design	Introduction to Electrical Engineering	Fluid Dynamics

Technical Skills

- **Programming Languages:** C, C++, Python
- **Libraries:** Tensorflow, Keras, Numpy, Matplotlib, Pandas, OpenCV, Scipy, Seaborn
- **Software:** Fusion 360, MATLAB, AutoCAD, Illustrator
- **Utilities and Tools:** Git, GitHub, LaTeX, Jupyter notebook

Extra-Curricular Activities

- **Volunteer, Raktarpan IITK** (Blood Donation Awareness Club)   *May'21 - Mar'22*
- Volunteered in spreading awareness and busting misconceptions regarding **Blood Donation** and related topics through social media
- Collaborated with **GnS council** and **Bicycling Scoiety** and organized an **awareness-Pedal** to promote Blood Donation
- Worked as a Volunteer in Students Placements Office, IIT Kanpur, as a winter volunteer, handled various aspects of placements at IIT Kanpur, right from contacting companies to managing all logistics of arranging pre-placement talks and conducting final interviews
- **Volunteer, Prayas, Community Welfare Society, IITK**   *May'21 - Mar'22*
- Volunteer in Prayas, educated the marginalized kids in and around IITK campus, promoting the notion 'Education for All'
- Secured **2** position in Fun-fusion, a competition of **collective artworks**conducted by **Fine Arts Club** in association with **Rangmanch**
- Volunteered in Unmukt Photoshoot of **International Women's Day**, in collaboration with Photography Club, IITK celebrating social,economic and political achievements of women and raise awareness about women's equality, accelerating gender parity
- Participated in Online Art competition celebrating Pride Month, conducted by Unmukt, IITK depicting rainbow, truth and self acceptance
- Secured 1 position in the "tasweer azadi ki" competition conducted by Amar Ujala Newspaper, 2013 celebrating Independance Day
- Awarded "Dr Achint Mathur Smriti Award" for outstanding performance in dance and cultural activities, 40th Little Ipta Camp, 2015
- Received recognition for exceptional performance in Sanskrit language in the 'Akhilbhartiya Sanskriti Gyanpariksha', 2019
- Participated in **scavenger** and **treasure** hunt in a team of 5 members, counducted by **Media and Cultural Council** IITK, 2022