

# Vijaya Kumari

Final Year Undergraduate  
Department of Mechanical Engineering

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## ACADEMIC QUALIFICATIONS

Year	Degree/Certificate	Institute	CPI/%
2020 - Present	B.Tech	Indian Institute of Technology, Kanpur	5.85/10.0
2019	Class XII (CBSE)	Bishop Conrad Senior Secondary School, Bareilly	77.2%
2017	Class X (CBSE)	Bishop Conrad Senior Secondary School, Bareilly	8.6/10

## SCHOLASTIC ACHIEVEMENTS

- Earned a coveted spot on the **NISER Merit List** through stellar performance in the **NEST 2020 Examination**
- Selected for **CSRL Super 30** Jaipur, among all students of Rajasthan and Madhya Pradesh, for **1-year JEE** preparation
- Awarded with the CSRL Super 30 **Scholarship for Academic Excellence** sponsored by **IOC Ltd.** among **1000+** Students

## KEY PROJECTS

**Train Schedule Management** | Self Project  (May'22-Jul'22)


- Developed **Train Schedule Management** System to facilitate scheduling & effective administration of training programs
- Utilized **C++** for **backend development**, integrated date validation and **file handling libraries** for reducing manual errors
- Designed a user-friendly **interface** for administrators and faculty, improving communication, streamlined scheduling processes

**Metro App** | Self Project  (May'23-Jul'23)

- Developed a C++ program receiving input as source and destination details, showcasing the **shortest metro route** effectively
- Utilized various **algorithms** including **Dijkstra**, **breadth-first search**, **depth-first search** to determine the optimal path
- Executed using **Graph** and **Heap Data Structures**, with nodes symbolizing metro stations and edges representing distances

**Vertical Axis Wind Turbine** | Course Project (**SEE614**), Prof. Debopam Das (Jan'23-Apr'23)

- Developed **H-Type Vertical Axis Wind Turbine** with aerodynamic principle and utilized **Fusion360** for **CAD** model
- Redesigned traditional model with innovative polyester fabric integration for **reduced weight** and **enhanced speed** potential
- Enhanced stability and airfoil shape maintenance by incorporating **styrofoam**, **plastic sheets** into the conventional design
- Employed airfoil **DU 06-W-200**, achieved approximately **80 RPM efficiency**, surpassing standard **H-type wind turbines**

**Weather App** | Self Project  (Jan'22-Feb'22)

- Developed a user-friendly Web Weather-App using **API** and modern technologies like **HTML**, **CSS** and **Javascript**
- The App fetches data from **API** and Shows the name of **city**, **current temperature** and description of the **weather**

## TECHNICAL SKILLS

- Programming Languages:** C, C++, HTML, Python,  $\text{\LaTeX}$ , SQL
- Software and Libraries:** MS-Excel, Fusion360, Microcap, Git, VsCode, Pandas, Numpy

## RELEVANT COURSES \*Online Courses

Fundamentals of Computing	Partial Differential Equations	Introduction to Electronics
Introduction to Economics	Linear Algebra and ODEs	Engineering Design and Graphics
Data Structure and Algorithm*	Basics of Machine Learning*	Introduction to Data Science *

## POSITIONS OF RESPONSIBILITY

**Girls Security Officer (GSO)** | **Techkriti'23** (Mar'23)

- Managed **Techkriti'23** security while leading a **3-tier** team consisting of **50** senior executives and **100** junior executives
- Conducted Bollywood night, DJ night and EDM night smoothly which garnered impressive **footfalls of over 5000+**
- Prepared the **security plan** with consultation with the special task force, security Heads and security office of the IIT Kanpur

**Secretary, Vivekanand Samiti IIT Kanpur** (Oct'21-May'21)

- Managed and coordinated a range of club activities efficiently and visited the **Ramakrishna Mission Ashram** in Kanpur
- Distributed about **400+** blankets to the needy people of Kanpur as an active member of **Blanket Donation Drive**

**Senior Executive, Marketing** | **Techkriti'22** (Nov'21-Apr'22)

- Prepared a database of possible investors and approached **100+ companies** targeting various sectors spread all over the country
- Managed all Technical events under the supervision of Head and Organizers, as well as **SBI company** sponsors for the festival
- Ensured all events run smoothly and also created **branding reports** for various Fest participant companies with responsibility

## EXTRA-CURRICULAR ACTIVITIES

- Engaged in **Vivekananda Samiti** initiative by providing free tuition classes to students in need due to financial constraints
- Participated in the **Institute Badminton League'22**, contributing significantly as a proud member of the Badminton team
- Awarded with a Certificate of Merit for the course project, positioned within the **top 5** among **400+** students
- Secured a bronze medal in the 2015 UP State Taekwondo Championship, organized by Uttar Pradesh Taekwondo Association