

ACADEMIC QUALIFICATIONS

Year	Degree/Certificate	Institute	CPI/%
2021 - Present	B.Tech	Indian Institute of Technology Kanpur	6.1/10
2020	CBSE(XII)	Air Force School, Agra	93.6%
2018	CBSE(X)	Air Force School, Agra	91%

ACHIEVEMENTS

- Secured **AIR 287** in **NDA-148** Final Merit List and **service rank 30** in **Air Force** among the 2.5 lakh candidates (2021-22)
- Shortlisted for **Wadhvani Foundation's Entrepreneurship Ignite Cohort** with startup idea "**Tiffany**"
- Bagged **first position** for making a No-Code Resume Builder in **Hackathon** organised by **SPO, IIT Kanpur** 2022-23

PROJECTS

HackIT | Programming Club, IIT Kanpur

(May'22 - July'22)

- Learned about **WEB Exploitation**, with the use of **Burp Suite** and **Metasploit** launched some attacks on various websites
- Found **vulnerabilities in Pingala** by intercepting requests, resulting in accessing the individual's information and documents
- Launched **Cross-Site Scripting (XSS)** attacks, **200+** points for **web-exploitation** on **PicoCTF**, learned **OSI model**

Mathematical Trading Strategies | Stamatics, IIT Kanpur

(Apr'23 - July'23)

- Utilized python's **yfinance** module to evaluate investments, calculate returns, maximum drawdowns, and apply performance ratios
- Generated effective trading signals with **Keltner Channel**, **Bollinger Band**, **MACD** indicators based on NASDAQ & NSE indices
- Showcased expertise in chart pattern recognition and **strategy development**, successfully identifying & analyzing various patterns

Sensor placements for air quality monitoring using Optimization algorithms | SOCE, IIT Kanpur

(Apr'23 - July'23)

- Developed optimization algorithm combining **genetic algorithms**, **crossover methods**, **roulette wheel selection**
- Implemented efficient techniques like **single point**, **double point**, and **uniform crossovers** to enhance the optimization process
- Improved sensor placement strategies contributed to innovative solutions for air quality monitoring, resulting in higher accuracy

Smart Search and Identification of Missing People | Prof. Saumya Dutt and Prof. T.K. Guha, IITK

(June'23 - Ongoing)

- Developed interactive and user-friendly portal for Tracking Missing People using **React.js**, **Tailwind**, **Bootstrap**, **MySQL**
- Implemented **MTCNN** for face detection & **Siamese network** for one-shot identification by fine-tuning pre-trained VGG-16 model
- Utilized **OpenCV** for image augmentation techniques, including **Gaussian noise** and lighting changes, to create a realistic database for training and achieving better accuracy

No-Code Resume Builder | SPO Hackathon, IIT Kanpur

(Apr'23 - June'23)

- Developed an interactive Resume-Builder with custom styling buttons and custom templates using **HTML**, **BootStrap**
- Developed **JavaScript** code to **manipulate** web page elements and **handle** user interactions, enhancing the user experience
- Implemented **dynamic behavior** on it using JavaScript, including **toggleing** template options, sections and manipulating lists

DeepVision | ITS, Dept. of EE, IIT Kanpur

(May'23)

- Developed a **Convolutional Neural Network** model using **TensorFlow** & **Keras** for image classification on CIFAR-10 dataset
- Implemented multiple convolutional & **pooling** layers, performed **one-hot encoding** to ensure compatibility with the CNN model
- Optimized CNN model using **SGD** optimizer, **activation functions**, weight initialization and regularization, leading to high accuracy

MENTORING EXPERIENCE

The LAMP Stack: A Road to DevOps | Programming Club, IIT Kanpur

(April'23 - August'23)

- Introduced a batch of 24 undergraduate students to concepts of **Linux**, **Apache Web Server**, **Virtualization** & **Networking**
- Helped them use HTML, CSS, JavaScript & React.js Library to develop web applications and **Docker** to containerize them

SOCIAL IMPACT

Social Entrepreneurship | Smart Search and Identification of Missing People

(May'23 - Present)

Mentor: *Prof. T.K. Guha, AE, IIT Kanpur & Prof. Soumya Dutta, CSE, IIT Kanpur*

Objective	<ul style="list-style-type: none"><li>Develop an innovative <b>portal</b> to combat <b>human trafficking</b> in India, with the support of <b>3 esteemed professors</b></li><li><b>Reduce</b> incidents, <b>improve</b> identification rates, and <b>foster collaboration</b> within society for a safer environment</li><li><b>Establish IITK</b> as the <b>leading hub</b> for leveraging <b>technology</b> to <b>solve</b> problems related to human trafficking</li></ul>
Approach	<ul style="list-style-type: none"><li>Conducted an exhaustive <b>survey</b> with <b>500+</b> anti-human trafficking <b>NGOs</b>, <b>shelter homes</b> &amp; <b>police stations</b></li><li>Enhancing <b>search</b> &amp; <b>identification</b> with advanced image recognition algorithms, aiming to achieve <b>90%+</b> accuracy</li><li>Collaborated with <b>C3i hub</b> experts to ensure <b>robust security</b> measures and <b>protect</b> sensitive data</li><li>Implemented <b>MTCNN</b> &amp; <b>Siamese network</b> for one-shot face identification by fine-tuning pre-trained VGG-16 model</li><li>Utilized OpenCV for image augmentation techniques, including Gaussian noise and lighting changes, to create a realistic database for training and achieving better accuracy</li><li>Exploring portal enhancements like <b>DNA mapping</b> &amp; <b>street CCTV</b> recognition to drive continuous improvements</li></ul>

CERTIFICATIONS

Intensive Training School on Python for ML/DS/DL | Dept. of EE, IIT Kanpur

(May'23 - Present)

Mentor: Prof. Aditya K. Jagannatham, Department of Electrical Engineering, IIT Kanpur

- Aquired basic knowledge of Real Analysis, Linear Algebra & basics of Machine Learning, Data Science & Deep Learning
- Implemented various ML algorithms, including Logistic Regression, PCA, SVC, LDA, DTC, K-Means Clustering
- Learned various DL methods and algorithms, including Multi-layer Neural Network, CNN. Completed a total of 22 projects

POSITIONS OF RESPONSIBILITY

Chief President's Nominee | President's Office, Students' Gymkhana

(April'23 - Present)

Leadership	<ul style="list-style-type: none"><li>• Managing Committee Affairs and Faculty Affairs pertaining to Students' Gymkhana, which consists of 50 committees that coordinate with matters related to 9000+ students, 520+ faculties, and other relevant stakeholders</li></ul>
Operations	<ul style="list-style-type: none"><li>• Initiated a Digital On-Campus Payment System benefiting 9000+ students, 45+ vendors</li><li>• Organized Farewell Fantasia for graduating batch, featuring a music band, prom night, and karaoke event</li><li>• Initiated action against unauthorized price hikes in campus canteens, advocating for transparency and fair pricing.</li><li>• Managed the maintenance of Gymkhana servers and Virtual Machine, ensuring minimal downtime</li></ul>
Impact	<ul style="list-style-type: none"><li>• A total investment of INR 9 crore will be implemented with each student receiving a credit of INR 10k</li><li>• Successfully improved the financial health of the campus community by implementing efficient policies</li></ul>

Organizer | Hospitality, Udghosh'23

(June'23 - Present)

Leadership	<ul style="list-style-type: none"><li>• Spearheaded a team of 40+ Senior Executives to ensure the smooth conduction of the pre-fest events of the festival</li></ul>
Operations	<ul style="list-style-type: none"><li>• Formulated new incentives for Campus Ambassador Program resulting in YoY increase of 300% in registrations</li></ul>
Impact	<ul style="list-style-type: none"><li>• Successfully got more registrations through the Campus Ambassador program in different pre-fest and formal events</li></ul>

Web Secretary | Students' Gymkhana

(June'22 - Mar'23)

- Upgraded and migrated the "students" WebServer from Apache to Nginx, resulting in improved performance, enhanced security
- Successfully transitioned the VM hosting the WebServer from CentOS to Ubuntu, ensuring compatibility with the latest software
- Containerized the Server using Docker, enabling easy deployment and application isolation. Streamlining deployment process

TECHNICAL SKILLS

Programming Languages	C, C++, Python, HTML, JavaScript, Bash
Tools & Libraries	BurpSuite, Docker, Fusion 360, Tensorflow, Numpy, Seaborn, Pandas, Matplotlib, BeautifulSoup
Frameworks & WebServer	React.js, Node.js, Express.js, MongoDB, MySQL, Apache Web Server, Nginx

RELEVANT COURSES

\* Online

Fundamentals of Computing Apache Web Server*	ITS on Python for ML/DS/DL, Dept. of EE, IITK Python for Data Science and Machine Learning*	Real Analysis Linear Algebra and ODEs
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MISCELLANEOUS

- Mentored 20 mentees in the Programming Club's "The LAMP Stack" project, and driving successful DevOps execution
- Secured First Position in Volleyball Championship during Inter-Pool competition Inferno'23 being a part of Pool Aryans
- Player on both the Institute Volleyball team, IITK and Institute Aquatics team, IITK
- Coached and mentored volleyball players from each hall, as part of the Games and Sports Council, in Freshers' Inferno'22
- Secured First Position in Volleyball and Basketball Championships during Intra-hall competitions, being a Captain of both teams