

Academic Qualifications

Year	Degree/Certificate	Institute	CPI/%
2020 - Present	B.Tech	Indian Institute of Technology, Kanpur	8.9/10
2020	CBSE(XII)	Jawahar Vidya Mandir, Shyamali	97.4%
2018	CBSE(X)	Jawahar Vidya Mandir, Shayamali	96.5%

Scholastic Achievements

- Secured **Second** position in **Inter IIT Techmeet 10.0** in Mid-prep problem statement provided by **ISRO** on Web-based automatic identification of solar bursts in X-ray light curves.
- Secured **All India Rank 651** in **JEE Advanced 2020** among 1,50,838 shortlisted candidates
- Among the top 0.2% of the 0.8 million applicants with **All India Rank 1638** in January **JEE Mains 2020**
- Secured **All India Rank 44** in **Indian Statistical Institute Admission Test 2020** in B.Math Programme
- KVPY SX Scholar** in 2020, awarded by IISc Bangalore, under the Govt. of India
- KVPY SA Scholar** in 2019, awarded by IISc Bangalore, under the Govt. of India
- NTSE Scholar** in 2018, awarded by **National Council of Educational Research and Training**, New Delhi.

Key Projects



- 🔗 **Direction of Arrival Estimation** | **EE627 Course Project, Prof. R. Hegde** *Feb 2022 — Apr 2022*
 - Generated Spatial Room Impulse Responses using Image Method, which convolved with plain speech, gave directionality
 - Treated Direction of Arrival estimation as a classification problem on a spherical grid having 684 points, with 5° resolution.
 - Implemented a Convolutional Recurrent Neural Network on Pytorch that takes in first order Ambisonics-B intensity vector from the above generated speech signals, and predicts one of the 684 lattice points
- 🔗 **Game of Blocks** | **Science and Technology Council, IIT Kanpur** *May 2021 — Aug 2021*
 - Understood principles of BlockChains, how a system succeeds to be trustworthy in an otherwise environment
 - Applied learnt concepts on implementing dummy cryptocurrencies with proof of work mechanism
 - Developed ETH Smart Contracts on IRV and Dutch Auction Mechanisms using Solidity
- 🔗 **Numbers Made Dumber** | **Stamatics, IIT Kanpur** *Apr 2021 — Jul 2021*
 - Based on understanding the principles of Number Theory, topics that were oriented towards Cryptography
 - Implemented standard cryptographic algorithm RSA in Python from scratch
- 🔗 **ML with Julia** | **Association for Computing Activities, IIT Kanpur** *May 2021 — Aug 2021*
 - Explored Linux system with CTFs and Exercism
 - Explored the language Julia and implemented Regression Models and ANNs from scratch in that language
 - Implemented mathematical operations as data structures including rationals, vectors and gradients in Julia
- 🔗 **Computational Astrophysics** | **Science and Technology Council, IIT Kanpur** *May 2021 — Jul 2021*
 - Was introduced to Astrophysics and understood the usual conventions and patterns used throughout the field
 - Worked with Python's Astronomy dedicated library Astropy
 - Solved problems based on datasets from standard sites including Vizier and SDSS
- 🔗 **CSRT Tracking** | **Aerial Robotics, IIT Kanpur** *Aug 2021 — Oct 2021*
 - Developed a ROS Package implementing the CSRT Tracker in C++ using OpenCV to track objects in the Region of Interest
 - Implemented an algorithm for global pose estimation of Husky using camera feed and libraries including Eigen for coordinate transformations

Technical Skills

- Languages and Utilities:** C, Cpp, Javascript, Python, Octave, Julia, Bash, L^AT_EX, CSS3
- Software and Libraries:** ROS, Gazebo, Git, Pytorch, Adobe Suite (Ai, Ps, Ae), Vim

Positions of Responsibility

- 🔗 **Technical Team Member** | **Aerial Robotics, IIT Kanpur** *Apr 2021 — Present*
 - Working in a team over Autonomous UAVs via ROS-Gazebo integrated environment
 - Worked on implementing a ROS Package on the CSRT (Channel and Spatial Reliability Tracking) node for localization.
 - Worked on implementation of the visual Simultaneous Localisation and Mapping for effective localisation and pose estimation.
- 🔗 **Secretary** | **Programming Club, IIT Kanpur** *Sep 2021 — Apr 2022*
 - Conducted workshops on pillars of programming, tasked to offer summer project this year for freshmen
 - Contributed to the Club's repositories based on deployable projects, directly affecting the campus community

-  **Secretary | Design and Animation Club, IIT Kanpur** *Jul 2021 — Mar 2022*
 - Took part in Team based Rebranding event, the team securing 2nd position out of 9 teams of proficient designers.
 - Position of Responsibility of holding workshops and introducing freshmen to the concepts of design
-  **Senior Executive, Design | Udghosh, IIT Kanpur** *Sep 2021 — Mar 2022*
 - Involved in the regular creation of graphics for Udghosh, the Sports Festival of IITK
 - Involved in the rebranding of the fest and took part in its theme creation and designing of Udghosh'22

Relevant Courses

Fundamentals of Computing	Linear Algebra	Differential Equations
Real Analysis	Physics I - Mechanics	Physics II - Electrodynamics
Introduction to Electronics	Signals and Systems	Complex Analysis
Speech Signal Processing	Control System Analysis	Probability and Statistics

i - Currently in progress