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B.Tech.
Gender: Female
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Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2025	

Pursuing a Minor Degree in **Artificial Intelligence and Data Science**, C-MInDS, IIT Bombay

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 64** in the **JEE Main 2021** examination out of **7.3 lakh** candidates nationwide ('21)
- Awarded the **KVPY Fellowship** by the Government of India for ranking in the **top 1%** of candidates ('21)
- Two-time** recipient of the **Scholar's Badge**, presented in recognition of all-rounded excellence ('19, '20)
- Conferred the **Governor's Gold Medal** for scoring **90+** on 100 in **all subjects** in the ICSE board exam ('19)
- Won **Certificate of Merit** for placing in **top 5%** in **SOF-Kshitij-IIT Kharagpur "Teenage Prodigy"** ('18)
- Honoured with a **High Commendation** for **exceptional** academic performance throughout school ('08 - '21)

KEY PROJECTS

Course Development | *Virtual Labs, IIT Bombay* | *NMEICT, Ministry of Education, Govt. of India* (May '23 - Present)
Numerical Methods and Statistics

Initiative to design web-enabled laboratory experiments for remote operation by Indian high-school and undergraduate students

- Ideated and developed **15+** experiments on statistical topics like **Regression** and **Univariate Hypothesis Testing**
- Created **Storyboards** for each experiment detailing the functionality to be implemented on the student and the server side
- Generating **code blocks** of various arithmetic functions using **GNU Octave** for calculations to be performed at the backend
- Designing the front-end **User Interface** for each experiment suggesting diverse input methods to enhance user experience

The Humanoid Project | *Institute Technical Council, IIT Bombay* (Mar '22 - Present)

Artificial Intelligence and Perception Subsystem

An all-student technical group designing a social humanoid robot to be deployed in the Library/Lecture Halls of IITB

- Sourced **10k+** training images of common objects from the camera and web crawling and annotated them with **labelling**
- Trained **YOLOv5** architecture to detect cups and other objects from the bot's camera feed with **>75% confidence** score
- Utilised the **RASA** framework to develop a **conversational wrapper** to invoke custom actions for certain text commands
- Employed **PyAudio**, **Mozilla DeepSpeech** to issue voice commands to locate supported objects in the bot's camera frame

CNN Segmentation using U-Net | *Course Project - Introduction to Machine Learning* (Feb '23 - Mar '23)

Guide - Prof. Biplab Banerjee, Centre for Machine Intelligence and Data Science

- Improved the U-Net model by implementing **Batch Normalisation** and **resizing** of images instead of using **centre-crop**
- Trained the enhanced U-Net model on the **Carvana** dataset to achieve an accuracy score of **98.22%** and loss of **0.122**

Solar Activity Analysis | *Course Project - Programming for Data Science* (Oct '22 - Nov '22)

Guide - Prof. Amit Sethi & Prof. Manjesh K. Hanawal, Centre for Machine Intelligence and Data Science

- Procured data with **100k+** entries from **NASA's RHESSI Mission** and Ioffe Institute's **Konus-Wind** solar flare datasets
- Trained **Long Short Term Memory** and **Autoregression** machine learning models and compared their predictive accuracy

Morse Pulse Detector | *Course Project - Digital Electronics* (Mar '23 - Apr '23)

Guide - Prof. Pradeep Sarin, Department of Physics

- Developed a **Finite State Machine** architecture to generate corresponding outputs for short and long digital pulses
- Generated Morse 'dots' and 'dashes' via blinking LED, implemented using **FPGA** operating on **100+** lines of **VHDL** code

TECHNICAL SKILLS

Languages - Java, C/C++, Python, SQL, R, HTML, MATLAB, GNU Octave, VHDL, \LaTeX , Markdown

Softwares - MS Excel, Tableau, Quartus, Adobe Photoshop, Adobe Illustrator, Adobe Premiere Pro, Canva

POSITIONS OF RESPONSIBILITY

Institute Secretary, Academic Affairs | *Undergraduate Academic Council* (Apr '23 - Present)

Highest nominated Student Officer | Addressing the academic grievances and queries of 5000+ undergraduates

- Coordinating among **20+** bodies and divisions across the institute to improve academic **policies** at the institute level
- Spearheading team of **4** coordinators to create awareness among **5000+** undergraduates about various academic opportunities
- Organised department-wise **Branch Induction** sessions for **1200+** upcoming sophomore students from **10+ academic units**

Institute Academic Coordinator | *Student Support Services, UGAC* (May '22 - Apr '23)

Selected among 12 out of 200+ applicants | Resolving the academic queries of 5000+ undergraduates

- Scheduled **Tutorial Services Centre** help sessions to aid students in **10+** courses, witnessing year-on-year growth of **150%**
- Executed development of **Resobin**, a resources and reviews platform for **2000+** courses, in collaboration with DevCom

Teaching Assistant | *Departments of Computer Science and Physics, IIT Bombay* (Mar '23 - Jun '23)

- Oversaw **10+** laboratory sessions of and evaluated examinations for **500+** students in **CS101 (C/C++ Programming)**
- Conducted weekly **problem-solving** sessions and graded examinations of **40+** students in **PH112 (Quantum Physics)**

Department Academic Mentor | *Department of Physics, IIT Bombay* (May '23 - Present)

Selected among 21 mentors out of 40 applicants, to assist sophomore undergraduates of the department

- Guiding **6** students, organising departmental **information sessions** and fulfilling duties of to academic **counselling**

Summer of Science Mentor | *Maths and Physics Club, ITC* (May '23 - Present)

- Supervising **6** students across **2** reading projects on **Machine Learning** and **Natural Language Processing**

Project Mentor | *Winter in Data Science | Analytics Club, UGAC* (Dec '22 - Jan '23)

- Mentored **6** students to develop a **Conversational Chatbot** model using concepts of **Natural Language Processing**

EXTRACURRICULAR ACTIVITIES

- Conferred the title of '**Student of the Year**' by Times NIE for ranking **first** out of **100+** students in school ('18)
- Won '**Outstanding Project Award**' under Avanti Foundation Leadership Program for work done on cleanliness ('16)
- Passed **7 stages** of **Bharatanaytam** examinations by Nalanda Dance Research Centre with **5 A++** and **2 A+** grades ('19)