

SCHOLASTIC ACHIEVEMENTS

- **Top 25 all India:** INAO | **State top 1%:** NSEA | Invited to OCSC, the final trials for **India's delegation** to the International Olympiads
- One among the **73** undergraduates selected **nationwide** for NIUS (Physics) | Recipient of the **KVPY** fellowship – All India Rank **326**

PROFESSIONAL EXPERIENCE

Tata Industries Limited (TIL) [Mar'23-Jun'23]	Analyst Intern Technology Investment Strategy New ventures arm of the Tata Group <u>Responsible for investment analysis and for creating plans & conducting explorations in two deep-tech sectors</u> <ul style="list-style-type: none"> ▪ Opportunity of up to INR 20M+ revenue per year: Developed a model for a Corporate Social Responsibility plan to generate additional channels of revenue for farmer communities in water-scarce regions of India ▪ Developed and shared insights into various ad-hoc techno-commercial opportunities that were presented to Tata Industries Limited (TIL) with a goal of enabling senior management in decision making ▪ Subject matter specialist: Shared working and theoretical knowledge with senior leadership to aid the development of a roadmap for the exploration of quantum computing and related quantum technologies
Co-Founder [Feb'23-Oct'23]	Soilo <u>Secured a grant of INR 50K through IDEAS, IIT Bombay</u> <u>Carbon Credits via Sustainable Farming</u> <ul style="list-style-type: none"> ▪ Developed marker recognition ML algorithm for drones 92% accuracy despite vibration-induced blurry video ▪ Conceptualized a framework to generate agricultural carbon credits through negative emissions technologies
Université Paris-Saclay [May'22-Jul'22]	Visiting Research Intern - Biophysics Paris, France (on-site) Director Guillaume Tresset <u>Univ. ranked 1st in Europe and 13th globally in physics</u> <u>Worked directly under a Director of Research at CNRS</u> <ul style="list-style-type: none"> ▪ Discovered correlation in viral DNA content and light absorption using a novel analysis of 10.6k+ particles ▪ Performed 3 experiments by rapidly mixing protein and RNA droplets under various ambient conditions ▪ Modelled icosahedral virus formation by analysing its kinetics data on MATLAB using Monte Carlo methods

RESEARCH EXPERIENCE

Bachelor's Thesis Prof. A Kumar	<u>"Finding Zero-index Bound states in continuum by simulating photonic crystals"</u> <u>Possibility of future publication</u> <ul style="list-style-type: none"> ▪ Discovered parameters allowing 0% radiation losses in a crystal Fabricating the metamaterial at LOQM, IITB
UMIC, IITB ML Subdivision [Sep'19-Dec'20]	<u>Only freshman to singlehandedly manage an entire subsystem - a role usually reserved for 3rd year students</u> <ul style="list-style-type: none"> ▪ Reduced code execution time by 45x through a custom-built algorithm – attaining almost real time speeds ▪ Progress on active research problems: Developed DL code able to recognize 10-inch characters 80+ft away ▪ International Competition: Cleared primary and secondary rounds of the Barcelona Smart Drone Challenge
MELODE Labs, IITB Algorithms Division [Oct'21-Mar'22]	<u>Reservoir Training of Liquid State Machines (LSMs) using principles of Neuromorphic Computing & Engineering</u> <ul style="list-style-type: none"> ▪ Novel idea: Achieved 75% accuracy in simulating a brain disorder by hypothesising the underlying mechanism ▪ Analysed the working of LSMs in MATLAB by varying parameters such as synapse order & neuron quantity

LEADERSHIP AND ORGANISATIONAL EXPERIENCE

Head of Cabinets [Feb'22-May'23] Team Building Policy Making Initiatives	Student Mentor Program Department & Academic Verticals Supported 3.6k+ undergrads <u>Recommended by Deans to lead a 3-tier, 340+ member team</u> <u>Student Rep. (2/10k+) in IITB's ARP Committee</u> <ul style="list-style-type: none"> ▪ Supervised student heads of all departments; vetted the selection of 316 student mentors from 760+ applicants ▪ Conceptualised a 3-stage training for 440+ mentors, executed in collaboration with UK based professionals ▪ Projected 15% reduction of students in the Academic Rehabilitation Program by recommending 12 amendments ▪ Empowered 30% of the populace - low income/disabled students - by proposing a Web Accessibility Policy ▪ Led 6 Institute councils and pioneered 'Sophomore Immersion' for the offline onboarding of 1.3k+ students ▪ Acquainted 1.4k+ students across 13 departments with future opportunities by revamping 'Branch Induction'
Coordinator, Aerove [Dec'19-Jan'21]	<u>Impact: Reduced 40% of the cost per drone by identifying alternatives to cost drivers of expensive components</u> <ul style="list-style-type: none"> ▪ Secured INR 0.8 million in funds for building autonomous drones through a proposal pitched to STPC, IRCC ▪ Designed the 7-day recruit training program Enabled 30/30 beginners to build advanced ML code in 40 days
Student Mentor [May'21-Jul'22]	<u>Impact: Felicitated with the Special Recognition award (19/300+) in cognizance of extraordinary contribution</u> <ul style="list-style-type: none"> ▪ Among the 13/550+ applicants chosen in 3rd year Assisted 180+ students in career planning by organising talks
Head TA [Spring '22 & '23]	<u>In charge of a team of 35 teaching assistants</u> <u>Conducted weekly tutorials & quizzes</u> <u>1st year Quantum Physics</u> <ul style="list-style-type: none"> ▪ Aided 3000+ students by producing a 50-page booklet with detailed answers to 110+ challenging problems

EXTRACURRICULAR ACHIEVEMENTS

Dance Tournaments	▪ Head Choreographer of the institute dance team and won prizes at prestigious competitions all over India		
	Trophies	Competitions	Significance
	Winner	Group Dance: IIIT Hyderabad 2021	Beat 18 teams across India
	2nd place	Group Dance: IIT Madras 2023	Invited to choreograph for the judge
	2nd place	Group Dance: IIM Calcutta 2020	Bested professionally trained teams
	2nd place	Group Dance: Inter IIT 2019	One of only 4 freshmen to clear trials
	Finalist (3 occasions)	Street Battles, Group Dance - Moodl '20, '22	Knocked out 3x defending champions
IBM Hackathon	▪ 2nd place : developed a twitter monitoring AI tool Created a pitch on the spot after a last-minute pivot		