S.Ashwin

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3rd Year Undergraduate | Department of Aerospace Engineering

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Academic	Qualifications	
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Year	Degree/Certificate	Institute	CPI/%
2021 - Present	B.Tech	Indian Institute of Technology Kanpur	8.45/10
2021	CBSE(XII)	Maharishi Vidya Mandir, Chennai	97.0%
2019	CBSE(X)	SBOA school and Junior College, Chennai	97.6%

#### Scholastic Achievements

- Secured All India Rank 3353 in Joint Entrance Examination Advanced 2021 among the 1.5 Lakh candidates (2021)
- Secured All India Rank 4733 in Joint Entrance Examination Mains 2021 among the 11.47 Lakh candidates (2021)(2021)
- Received KVPY fellowship with All India Rank of 1633 in KVPY SX stream held by IISC, Bangalore

# Work Experience

#### SURGE Internship | Faculty Advisor: Dr.Sathesh Mariappan

(May'23-Jul'23)

Department of Aerospace Engineering, IIT Kanpur

	Objective	• Developing a novel solution model for acoustic equation with <b>damping</b> using Physics-informed neural network
		• Derived the <b>analytical solution</b> of the partial differential equation and generated training and testing datasets
	Approach	• Developed a model for the acoustic equation and investigated <b>self-adaptive methods</b> for improved modelling
		• Performed hyperparameter tuning and used optimisers like L-BFGS & adams to obtain the best fit model
Ì	Result	• Minimized the <b>Mean Absolute Error</b> to <b>0.279</b> , plotted & compared the results with real data using matplotlib

### Technology Intern | Radinno Labs | Mentor: Mr.Daniel Abraham

(Jun'23-present)

Objective	• Collecting data from a <b>telematics</b> sensor, integrating it with an <b>IOT</b> platform and using it to visualize the data
	• Configured the sensor telemetry data into <b>thingsboard</b> server and creating <b>dashboards</b> to display all the data
Approach	• Integrated the server with <b>PostgreSQL</b> to store all the telemetry using different <b>rule chains</b> in a <b>database</b>
	• Developed <b>new custom widgets</b> to help <b>visualize</b> the route using a <b>data-driven path animation</b> widget
Result	• Implemented robust data storage, created dynamic dashboards using 5+ widgets to gain customer insights

## **Key Projects**

# Machine Learning: Behind the Curtains | Stamatics Club, IIT Kanpur

(Apr'22-Jul'22)

- Studied mathematical intuition behind machine learning algorithms such as linear regression and artificial neural networks
- Implemented logistic regression and neural networks, including back propagation algorithms using numpy on python
- Employed K-means Clustering algorithm from scratch to train the unsupervised model on clustering Iris dataset

## Positions of Responsibility

### Assistant Placement Coordinator, Students' Placement Office, IIT Kanpur • Coordinating the internship drive for 1000+ students and placement drive for 1500+ students in a 3-tier team

(Apr'23-present)

Leadership	- coordinating the internal party for 1000   statemes and placement arrive for 1000   statemes in a 5 tier team
	• Spearheading a team of more than 70+ members handpicked for coordinating the internship & placement drive
	• Developing corporate connections with 50+ corporate giants for Internship and Placement drive 2023-2024
	• Coordinated in institute's first Career fest 'Samvardhan' to cater needs of 15+ companies and 1000+ footfall
Initiative	• Helped 2000+ students by collaborating with Prepleaf & MyAnalyticsSchool for tests & interview preparation
	• Introduced a series of Roadmap to placements for 10+ sector wise job profiles benefiting 1000+ students
Impact	• Enhanced awareness of the preparation material present on the Students Placement Office's website by 45%
	• Successfully attracted <b>5+ startups</b> like Audify and GIVA to register for the <b>Internship</b> season of 2023-2024
	• Assisted in Placement drive 2022-2023 achieving best ever placement record with 1200+ offers

### Secretary, International Relations Wing, Academics and Career Council, IIT Kanpur

(Jun'22-Apr'23)

Leadership	• Appointed as the direct PoC for multiple Semester Exchange students during their stay at IIT Kanpur
Initiative	• Conducted sessions like 'MBA abroad'& 'Semex101' for benefit of more than <b>600+</b> pre-final & final year students
Impact	• Facilitated flagship events like IRS'23 & SRC'23 with footfall of 1000+ students from all over India

### Social Impact

#### Education Mentor, Chudar Education (Non Governmental Organisation)

(May'23-Jul'23)

Initiative Impact	• Created application-focused mathematics learning modules for underprivileged students in grades 6-8
	• Implemented creative and interactive methodologies to enhance student engagement and understanding
	• Integrated the modules into educational programs, benefiting 600+ underprivileged students annually
	• Received TN government's approval and commendation for the quality and effectiveness of the modules

# Extra-Curricular Activities

Mentorship	• Acted as the <b>point of contact</b> of <b>6</b> freshmen and guided in <b>acclimatizing</b> to the Institute environment
	• Spearheaded 5+ freshers in Inter-Hall Script Writing competition in Galaxy'23 for the pool Kshtriyas
Volunteering	• Taught 8+ underprivileged students A level English course to improve their language & communication skills
	• Volunteered to help in conduction of Blood Donation camps with 200+ footfall during summer of 2023
Outreach	• Actively took part in <b>3 alumni networking</b> events catering to the needs of <b>50+</b> alumni during their stay
	• Helped in connecting over 500+ sophomores with 200+ alumni through Alumni Buddy Program for guidance
Miscellaneous	• Selected for Student-Scientist interaction at SDSC-SHAR, ISRO among 600+ students in highschool
	• Coordinated with the Counselling Service, IITK in conduction of Orientation 2022 for 1200+ freshers