

Kartikeya Gupta

B.TECH. | DEPARTMENT OF MECHANICAL ENGINEERING | IIT KANPUR
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EDUCATION

Degree	Institute	Year	CPI/Score
B.Tech. Mechanical Engineering (Grad. 2023)	Indian Institute of Technology, Kanpur	Present	8.0/10.0
Class XII (CBSE - AISSCE)	DPS Kalyanpur	2019	94.8 %
Class X (CBSE - AISSE)	DPS Kalyanpur	2017	10.0/10.0

SCHOLASTIC ACHIEVEMENTS

- Secured **AIR 1842** in JEE(Advanced), 2019 among over 0.2 million students.
- Secured **AIR 1565** in JEE(Mains), 2019 among over 1.2 million students.
- Recipient of **Uttar Pradesh Science Talent Search Examination 2016** fellowship award by U.P. State Government.
- Qualified for **Indian National Physics Olympiad 2018** organized by HBCSE.
- Recipient of **State 1%** award in **NSEP 2018** organized by HBCSE.
- Secured **AIR 20** in **Technothon(Prelims) 2017** among over 12,000+ students all over the country.
- Secured **first rank** in **Technothon(Mains) 2017** event "Mech-a-Bot", held at IIT Guwahati, among Top 50 teams of the Prelims round.

PROJECTS

- Control of Dual Spin Systems** | *Prof. Mangal Kothari | Helicopter Lab* May 2021 – Present
- Working on designing piezoelectric actuators to stabilise dual spin systems.
 - Studied and analysed non-linear models for PZT actuators like **Duhem Hysteresis** and **Maxwell Slip** models.
 - Worked in **MATLAB** and **SIMULINK** to simulate the actuator and derive the stability time.
 - Designed the entire brake system in **Fusion 360** in tight dimension and voltage constraints.
 - Project proposal accepted under **SURGE Programme**, in the Department of Aerospace Engineering.
- SPO Career Portal** | *Programming Club, IIT Kanpur* May 2021 – July 2021
- Project mentor for developing a career portal in collaboration with Student's Placement Office, IIT Kanpur.
 - Working on a **scalable** web application, a unified portal, connecting over **5000+** students and alums of the institute, with the various placement and internship offers.
 - Using **ReactJS** for frontend development, **Django** for backend development and **SQLite** for database.
- AstroSAT Web Visualization Tool** | *Silver Medalist | Inter IIT Tech Meet 9.0* March 2021 – April 2021
- Developed a web-based visualization tool for AstroSAT observations as a part of the **ISRO** problem statement.
 - Connected various catalogs with a user interface dashboard for checking the source observations.
 - Integrated **Aladin API** with the **ReactJS** frontend and used **ElectronJS** for standalone app bundling.
- Mechanical Watch Model** | *Course Project | ME251A* January 2021 – May 2021
- Designed a working model of the **ETA-6497 Swiss** mechanical watch.
 - Studied the working of a mechanical watch and various mechanisms involved for energy transmission.
 - Used **Fusion 360** to model the watch and added extra functionalities for displaying day and date.
- Swachta Mitra** | *Prof. Ashutosh Modi — CSE IIT Kanpur* January 2021 – May 2021
- Worked as a Front-end developer to implement a administrative dashboard.
 - Working on a scalable web application, a unified social platform, connecting the local citizens and municipal.
 - Used **ReactJS** as the primary technology stack for development.

Campus Discus @ IITK | *Programming Club, IIT Kanpur*

May 2020 – July 2020

- Worked under Programming Club, IIT Kanpur to develop a discussion platform for campus community.
- Worked on the frontend development of the web application and mobile app.
- Technologies being used were **ReactJS** along with **Redux** for the web application and **React Native** for Android/iOS.

8 Weeks 8 Languages | *Programming Club, IIT Kanpur*

April 2020 – July 2020

- Developed the basic understanding about some common fundamentals of computer sciences.
- Learnt about the various categories of programming languages and their eminent features from the perspective of theoretical computer sciences.

RELEVANT COURSEWORK

Fundamentals of Computing	Linear Algebra and Differential Equations
Real Analysis and Multivariate Calculus	Partial Differential Equation(A*)
Introduction to Electronics	Engineering Thermodynamics
Electrodynamics	Engineering Dynamics(A)
Manufacturing Process(A*)	Introduction to Psychology
Mechanics of Solids	Introduction to Fluid Mechanics
Introduction to Electrical Engineering	Engineering Design and Graphics

** (A*- Exceptional Performance)

TECHNICAL SKILLS

Programming/Scripting: Python, C, C++, JavaScript ES6, Typescript, Scala

Development: ReactJS, VueJS, ReduxJS, HTML, CSS

Utilities and Tools: Git, \LaTeX , VS Code, Visual Studio, Linux Shell Utilities

Software : Fusion 360, MATLAB, Simulink, VRep

Libraries: Numpy, Scipy, Sympy, Matplotlib, OpenCV, Tensorflow, Keras

POSITIONS OF RESPONSIBILITY

Coordinator

April 2021 – Present

Programming Club, IIT Kanpur

Responsible for organizing programming related lectures and workshops for the campus community.

Project Mentor

March 2021 – July 2021

Association of Computing Activities, IIT Kanpur

Mentored fresher students to teach them basics of web development.

Web Executive

May 2020 – May 2021

Vox Populi

Revamped the entire blog website for Vox Populi, student journalism body of IIT Kanpur

Senior Executive ShowM

September 2019 – March 2020

Techkriti 2020

Part of the management team for the annual tech-entrepreneurship fest of IIT Kanpur

MISCELLANEOUS

- Volunteered as a **developer** in the **India COVID Support** initiative by Startup Incubation and Innovation Centre, IIT Kanpur during the second wave of COVID-19.
- Won **Gold** medal at **Inferno 2019** in chess inter-hall team championship.
- District U-16 ISPL Chess Champion for the year 2016-17.