

Siddharth Gautam

4th Year Undergraduate | Department of Electrical Engineering at IIT Kanpur

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Academic Qualifications

Year	Degree/Certificate	Institute	CPI/%
2020 - Present	B.Tech	Indian Institute of Technology, Kanpur	5.9/10
2019	CBSE(XII)	R.K Education Centre, Kanpur	88.6%
2017	ICSE(X)	C.P Vidya Niketan, Farrukhabad	93.6%

Scholastic Achievements

- Secured **All India Rank 7051** in **Joint Entrance Exam Main 2020** among the **1.1 million** candidates
- Secured **All India Rank 6000** in **JEE Advanced 2020** among the **1.2 Lakh** shortlisted candidates
- Received the **9th State Rank** and **29th Olympiad Rank** in **International Olympiad of Mathematics**

Work Experiences

Product Development Intern, AgroNxt

(Apr'23-Ongoing)

Team member : Devesh Sootail, B.Tech IITK'24

- Collaborated in a two-member team to successfully develop a market-ready device within a tight 6-month timeline, aimed at aiding farmers and agricultural research. The device is now pending patent approval.
- Led end-to-end product development, spanning hardware, Raspberry Pi, Cloud integration and Market Research.** Coordinated closely with cross-functional teams encompassing design, hardware, and software, ensuring a seamless integration of all components.
- Overcame testing challenges and efficiently resolved various issues, showcasing strong troubleshooting skills. Designed and integrated the final PCB circuit using **Altium software**, incorporating customised elements such as the **solar MPPT circuit, Buck converter circuit, Voltage multiplier circuit, and GSM module.**

Research and Development Intern, Livguard (SAR Group)

(May'22-July'22)

Mentors : Mr.Gulfan Ahamad, Mr.Anusheel

- Developed a Password based **Embedded Security Lock** using **PIC16F722, 16x2 LCD** having **I2C interface**
- Analysed the data sheet and important modules of **PIC16F722** i.e **clock, external oscillator module, I/O ports** and implemented these in software for accomplishing required tasks from microcontroller
- Developed the software for **Testing Jig** used in production line for testing **Mode Selection PCB** of Home Inverter
- Worked on troubleshooting Hardware related issues evolved in the Testing Jig PCB during its operation
- Learnt to use tools for Embedded programming like **Renesas CS+ IDE, Renesas E1 Programmer, MPLAB X**

Key Projects

Raspberry Pi based Economic Microscope Set-up development, OSL IITK

(Dec'22-Feb'23)

Mentor : Prof. Rohit Medwal, Department of Physics, IITK

- Developed a customizable 100x microscope for looking microscopic samples and ST-FMR experiment using a raspberry pi zero, raspberry pi HQ camera, 100x zoom lens and a screen.
- Setup can be used for saving images and can be easily available by extracting the SD card.

Analog Lock-in Development, OSL IITK

(Jun'23-Ongoing)

Mentor : Prof. Rohit Medwal, Department of Physics, IITK

- Analysed the already available Analog lock-in circuit, done some customization in circuit according to our use
- Development of the part-wise circuits i.e; low noise per Hz JFET Amplifiers, Notch-filters, signal multiplier etc
- Currently working on integrating the different part-wise circuits of the lock-in and testing each part separately

RADAR Defence System Model (SELF PROJECT)

(Dec'21)

- Developed a model which would detect an object in a set range and would turn towards that object and target it
- Learnt about the working principle of the **HC-SR04 Distance Measuring Sensor** and implemented these for the detection of object entering inside range. This module also detects the exact distance at which the object is present
- Implemented the servo motor for rotating the laser module in the direction in which object is detected by sensor
- Components Used: **Arduino Uno R3, HC-SR04 sensor, Servo Motor, Laser Module, Bread Board**

Portfolio Website using React (SELF PROJECT)

(Jul'23)

- Developed and launched a dynamic self-portfolio website utilizing React, showcasing a collection of my projects, skills, and achievements

- Leveraged React's component-based architecture to create an intuitive user interface, enhancing user engagement through smooth navigation and interactive elements
- Integrated individual project details within the portfolio, allowing visitors to explore comprehensive information about each project

Technical Skills

- **Programming Languages:** C, C++, Arduino, Raspberry Pi, Python, Java, LaTeX, MATLAB
- **Softwares:** MPLAB X, Renesas C+ IDE, Github, VS Code, Micro-Cap
- **Technical Skills:** Electronic Circuit Implementation and Project Building using Arduino, Autodesk Fusion 360

Relevant Courses

Fundamentals of Computing	Signal, Systems and Networks	Probability and Statistics
Introduction to Electronics	Linear algebra and Differential Equations	Partial Differential Equations
Control systems analysis	Introduction to Electrical Engineering	Microelectronics
Introduction to Machine Learning	Power Electronics	Wireless Communication System

Positions of Responsibility

Senior Executive, Techkriti Open School Championship (2021-22)

- **Managed** the conduction of online exam and assisted the team to raise unprecedented participation across India
- **Led** the team of Junior Executives for accomplishment of various goals required for the conduction of the Exam
- **Worked** with the team to resolve various technical issues faced during the online conduction of the exam

Event Organiser, STUTI Programme under DST (2021-22)

- **Organised** the Scientific Training Programme conducted by IIT Kanpur and Amity University under Department of Science and Technology(DST), Government of India
- **Worked** in collaboration with IIT Physics Department labs for planning and successful execution of various lab demos for the participating students

Extra-Curricular Activities

- Designed a **3D model of JCB** and its various parts using **Autodesk Fusion 360** for TA201 Design Project
- Won in Cricket Inter-school competition conducted in the zonal level by the district sports community
- Participated in the bicycling event conducted by the counselling service, IIT Kanpur, monitored on Strava