

# Saurabh Kumar

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## About

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Dedicated B.Tech student in Electronics and Communication Engineering with a focus on avionics. Interests span hardware prototyping, FPGA design, IoT development, and embedded systems, with experience in C++, Verilog, and MATLAB. Passionate about applying technology to create impactful solutions in space and embedded systems.

## Education

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<b>B.Tech in ECE</b>	<b>Indian Institute of Space Science and Technology, Thiruvananthapuram</b>	Nov 2022 – May 2026
	<ul style="list-style-type: none"> <li>CGPA: 8.04/10</li> </ul>	
<b>Senior Sec. (Class XII, CBSE)</b>	<b>Gyansthali, Gaya</b>	2019 - 2021
	<ul style="list-style-type: none"> <li>Percentage: 93.2%</li> </ul>	
<b>Secondary (Class X, CBSE)</b>	<b>Elegant Public School, Gaya</b>	2015 - 2019
	<ul style="list-style-type: none"> <li>Percentage: 98.4%</li> </ul>	

## Experience

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<b>SAC, ISRO</b> , Intern	SAC, Ahmedabad
<ul style="list-style-type: none"> <li>Electrical testing and characterization of SAMRH707 Microcontroller</li> <li>Resource allocation, pin mappings and IG-XL test program development for Device Interface Board (DIB) to interface the DUT with the Automated Testing Equipment (ATE)</li> <li>Custom schematic design of DIB for interfacing of DUT with the ATE in CADSTAR</li> </ul>	Jun 2025 – Jul 2025
<b>Robotics Club, IIST</b> , Vice President	IIST, TVM
<ul style="list-style-type: none"> <li>Assisted in coordinating and overseeing club activities as part of the Executive Committee</li> <li>Coordinated with other office bearers in ensuring smooth functioning of club operations</li> </ul>	Feb 2024 – Oct 2024
<b>SSPACE, IIST</b> , Flight Software Engineer	IIST, TVM
<ul style="list-style-type: none"> <li>Worked on image processing algorithm and camera interfacing on Polarfire MPF300T FPGA for the INSPIRESat-3 Project</li> </ul>	Oct 2024 – Mar 2025
<b>College Fests</b> , Volunteer	IIST, TVM
<ul style="list-style-type: none"> <li>Organizer of technical events like Maze Solver, Robosoccer, C-Cubed</li> <li>Conducted robotics workshop for various schools in Thiruvananthapuram for Techfest Conscientia, Cultural fest Dhanak and IEEE Student Chapter IIST</li> </ul>	Oct 2023, Oct 2024

## Projects

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<b>Quiz Buzzer</b>	Aug - Dec 2024
<ul style="list-style-type: none"> <li>Designed quiz buzzer using 555-timer as part of Analog Electronics course</li> </ul>	
<b>Mini Bots Development</b>	2023 - 2024
<ul style="list-style-type: none"> <li>Worked on various robotics projects under Robotics Club IIST including WiFi-controlled Car, Maze Solver bot and Line Follower</li> </ul>	
<b>Web Development</b>	Aug - Oct 2024
<ul style="list-style-type: none"> <li>Worked on developing website for TechFest Conscientia 2024</li> </ul>	<a href="#">Website ↗</a>
<b>8-bit CPU</b>	Aug - Dec 2024
<ul style="list-style-type: none"> <li>Developed an 8-bit processor using Verilog in Vivado and implemented it on Xilinx PYNQ FPGA as part of Computer Architecture course</li> <li>Developed essential components such as the ALU, control unit, registers and memory</li> </ul>	<a href="#">Project Details ↗</a>

interface, enabling basic computational and control operations.

### Sanjog

- Developed an IoT-based match-making and connectivity device using ESP32 microcontroller as part of Computer Network Project
- Developed its mobile app using React Native Expo, and Firebase for cloud storage and authentication

Jan - May 2025

[Project Details](#)

### Handwriting Generator

- Developed a GAN model for generating handwritten characters as part of Computer Vision course

Jan - May 2025

[Project Details](#)

### Bitpacker

- Designed and optimized a 32-bit bit-packer using verilog in Xilinx Vivado for timing and power efficiency, to efficiently store variable-length data into fixed-size (32-bit) words, as part of VLSI DSP course

Jan - May 2025

## Key Skills

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**Programming:** C++, Python

**Hardware/HDL:** Verilog, Arduino, 8085, 8086

**Technologies:** Pygame, ReactJS

**Softwares:** MATLAB, Vivado, Blender, Illustrator

## Accomplishments

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- Best Student Award at Elegant Public School farewell
- Award for District level 10th board ranker by Aman Memorial Charitable Trust
- Third prize in Arduino Hackathon event of Conscientia 2023, IIST
- First position at Inter-house chess competition at IIST