

Soham Kapur

+91 7506936729 | sohamkapur134@gmail.com | github.com/SKpro-glitch | linkedin.com/in/soham-kapur/

*Results-driven engineer with a proven ability to tackle complex challenges and drive innovation.
Demonstrated success in delivering impacting projects, optimizing algorithms, and leading teams.*

Experience

Summer Intern | Centre for Nanoelectronics and VLSI Design, VIT Chennai

June 2024 - July 2024

- ASIC implementation of a 5-stage pipeline processor with RISC-V architecture.
- Designed and verified the Fetch stage of the processor in a team of 3.
- Tools Used: Verilog HDL, Xilinx Vivado, OpenLane2.

Education

8.86/10	BTech in Electronics and Computer Engineering , Vellore Institute of Technology, Chennai, Tamil Nadu	2021-25
91%	Class XII (ISC Board) , Hiranandani Foundation School, Thane, Maharashtra	2019-21
96%	Class X (ICSE Board) , Smt. Sulochanadevi Singhanian School, Thane, Maharashtra	2007-19

Relevant Courses: FPGA | VLSI Design | Embedded Systems | Signal Processing | Data Structures and Algorithms

Projects

RISC-V Processor Design

Jul 2024 - Present

Capstone Project

- RTL design for a 5-stage Pipelined **RISC-V** Processor using Verilog HDL.
- Using **open source** tools for design and implementation of the processor.

Shorthand Mnemonic Based Assembly Language

Mar 2024 - April 2024

Mini Project

- Created the syntax and structure of a novel Assembly Language, initially with **42 instructions**.
- Implemented a **simulation in Java** of the instruction set, capable of performing basic operations.
- Link: [Shorthand RISC](#)

Agricultural Turbo Drone for Crop Health Monitoring

Nov 2023 - Dec 2023

Design Patent

- Designed a drone body modification to enhance efficiency for **high thrust** in multi-rotor drones.
- Filed design patent for its unique **tapered motor housing** features relevant to agricultural industry.

Solving the Subset Sum Problem by Timing the Greedy Algorithm

Aug 2023 - Sep 2023

Conference Paper

- Analysed and verified a fast algorithm to find an **exact solution** of the Subset Sum Problem.
- Implemented the algorithm resulting in **200% higher speed** than the conventional methods.

Circuit Switching using Dynamic Programming

May 2023 - July 2023

Course Project - Computer Networks

- Developed a simulation for Circuit Switching which performs static routing using a **Dynamic Programming** algorithm.
- Reduces number of **redundant paths** from the set of all possible paths in the Graph through custom parameters.
- Link: [Circuit Switching](#)

Leadership

Captain | Team Aviators International, VIT Chennai

Dec 2023 - Nov 2024

- Led a **45 member** technical student team working on **UAVs** and Fixed Wing model planes.
- Raised over **Rs.2,00,000** in funding for the team through sponsorship.
- Completed **7 products** and participated in 4 competitions using the same.
- Technical Skills: **ArduPilot**, Pixhawk flight controller, UAV component selection.
- Achievements: **Runner Up** at GKN Aerospace Sustainable Aviation Challenge 2023

Skills and Competencies

Electronic Design	Verilog HDL, Vivado, Quartus, Cadence Virtuoso, LTSpice
System Design	Simulink, TinkerCad
Programming	Java, C, Python, Matlab, R
Robotics	Nucleo64 (STM32L152RE) Board, ArduPilot, Mission Planner, Arduino
Product Design	TinkerCad, SketchUp, Fusion360
Soft Skills	Enthusiastic, Fast Learner, Leadership, Teamwork, Problem-solving, Effective communication, Research, Adaptability, Time Management