Aman Singh

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Education

- **Rajiv Gandhi Institute of Petroleum Technology** — Jais, UP
  *(An **Institute of National Importance** along the lines of **IITs**)*
  *Bachelor of Technology in Electronics Engineering; CPI: 8.21** — *Dec 2020 - Jun 2024*
- **Delhi Public School** — Lucknow, UP
  Intermediate: 80.6 % Matriculation: 10 CGPA — *Jun 2015 - May 2019*

Experience

- **Hindustan Aeronautics Limited, Avionics Division**
  Summer Trainee — *July 2022-July 2022*
  - Understood and wrote a comprehensive report on the Opto Locator System (OLS) unit's working.
  - Worked on Laser Ranger Finder (LRF) and Infrared Search and Track (IRST).
  - Understood Opto-Electronics and the Mirror and Lens Assembly used in the unit for finding and locking targets.

Projects

- **Differential CMOS Voltage Controlled Ring Oscillator** | *Cadence Virtuoso, Spectre, LTSpice* — Present
  - Designing Delay cell, OP-Amp, Buffer stage for the VCO using gpdk90 CMOS.
  - Simulating and Analysing the Differential VCO using the Spectre and LTSpice.
  - Layouting the device and performing the LVS and DRC.
- **Basic Microcontroller Using Verilog** | *ModelSim* — Present
  - Designing ALU, Memory, Registers, Control Unit using Verilog.
  - Designing various Testbenches and Instructions for the Microcontroller.
- **Automation** | *Bash* — Present
  - Wrote scripts to automate sending emails, Managing disk space, Custom Welcome Message,etc.
- **Signal Modulation and Demodulation** | *MatLab* — Oct-2022
  - Amplitude, Frequency and Phase Modulation and Demodulation.
  - Various message signals were tested and modulation index was calculated.
- **4-bit Adder and Multiplier** | *Verilog, Intel Quartus,ModelSim* — Sep-2022
  - Designed and Synthesised Adder and Multiplier using Quartus Prime and Simulated using ModelSim.
  - Also performed Timing Analysis and Power Analysis.
- **Courier Authenticator** | *C++* — Aug-2022
  - Designed to be used in the institutions for easy and secure transfer of courier to the right person.

Skills

- **Areas of Interest**: Hardware Digital Design, RTL Design, FPGA Design, Digital Verification, CMOS Layouting, IC Design, Analog Circuit Design
- **Languages**: C, C++, Verilog HDL, Python, MatLab, BASH, 8085-Assembly Language
- **Tools**: Intel Quartus Prime, ModelSim, Cadence Virtuoso, LTSpice, Linux, Git, GitHub, AutoCad

Achievements

- Qualified IIT-JEE Advanced 2020, ranking in the top 1.84%.
- Achieved City Rank 2 & School Rank 1 in the NSTSE 2018.

Positions of Responsibility

- **Editorial Head** — IEEE-RGIPT Student Branch
- **Editorial Head** — ACM-RGIPT Student Chapter
- **Core Team Member(Editorial)** — OWASP RGIPT

Interests/Hobbies

- Reading Books about Astrophysics, Time and Quantum Mechanics.
- Watching anime and reading manga in order to increase my Japanese knowledge through visual learning, while increasing my perspective across various genres.