

Aastha Soni

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Ongoing Ph.D candidate in Analog and Mixed Signal at Indian Institute of technology (IIT), Mandi. Possess strong analytical and problem solving skills with hands-on experience in Cadence Virtuoso. Adept at conducting complex research, data analysis and presenting findings. Committed to continuous improvement in research field.

Course Work/Project

● Ph.D (Research Area-Analog and Mixed Signal)

Courses:-

- Mixed Signal VLSI Design
- VLSI Technology
- CMOS Analog IC Design

● M.Tech (VLSI Design)

Project - Design and Analysis of Voltage-Controlled Oscillator

Description :-

- The Voltage-Controlled oscillator(VCO) is a key component in digital and analog circuits that generates signals. VCOs are widely employed in frequency synthesizers and phase-locked loops, with various design types developed for different applications. In wireless systems, the performance of the VCO significantly impacts communication quality. Modern VCOs require a wide frequency range, low power consumption, and high frequency performance. The thesis focuses on designing a three stage PG-ring VCO using power gating in Cadence Virtuoso with 180nm technology. It compares its performance against other VCOs in terms of power, frequency, energy, and transistor efficiency.

Professional Specialization

● Arduino Certification | Ducat

- Experience on Arduino in Embedded C

● Tools

- Cadence Virtuoso
- Tanner EDA
- LT Spice
- Silvaco TCAD

● Technical Skills

- Analog and Mixed Signal Circuit Design
- Verilog HDL
- C/C++
- Static Timing Analysis

Education

- **Ph.D (Research Area-Analog and Mixed Signal)** 2024-Ongoing
Indian Institute of Technology (IIT), Mandi
 - CGPA- 8 (Current)
- **M.Tech (VLSI Design)** 2021-2023
National Institute of Technology (NIT), Hamirpur
 - CGPA- 7.18
- **B.Tech (Electronics And Communication Engineering)** 2021-2023
Atal Bihari Vajpayee Government Institute of Engineering and Technology
 - CGPA- 6.93
- **10+2 (Non-Medical)** 2015
D.A.V Public School, Hamirpur
 - CBSE
 - 63%
- **Matriculation** 2013
D.A.V Public School, Hamirpur
 - CBSE
 - CGPA-7.2

Internships/Certifications

- **HOLMIUM TECHNOLOGIES PVT. LTD** 2019
 - Automatic weather monitoring system
- **MAVEN SILICON** 2018
 - VLSI Design
- **DUCAT** 2018
 - Arduino
- **N.I.T HAMIRPUR** 2017
 - Noise Speech Intelligibility Enhancement

Skills

- Microsoft Office Word
- Microsoft Office Powerpoint
- Microsoft Office Excel
- Internet Browsing
- Problem-solving
- Creativity
- Time Management
- Eye for Detail

Languages

- Hindi *Professional Working Proficiency*
- English *Full Professional Proficiency*