Prachi Bindal

Roll No.:220102071
B.Tech - Electronics and Communication Engineering
Indian Institute Of Technology, Guwahati

+91-9343435162
p.bindal@iitg.ac.in
prachibindal275@gmail.com
GitHub
LinkedIn

EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute Of Technology, Guwahati	8.75 (Current)	2022-Present
Senior Secondary	MPBSE Board	94.8%	2021
Secondary	MPBSE Board	94.2%	2019

EXPERIENCE

- **Micron Technology** *May. 2024 - June. 2024*
  Mentee Hyderabad, India (Hybrid)
  – Connected with experienced mentors to gain insights into real-world challenges, focusing on **innovation** and **sustainability** in the semiconductor industry.
  – Acquired practical skills in semiconductor processes, emphasizing the importance of **tenacity**.
  – Engaged in **collaborative** projects, learning the value of teamwork and shared goals.
  – Participated in sessions on diversity, equity, and inclusion (**DEI**), enhancing career growth.

PROJECTS

- **Lock In Amplifier** *May. 2024 - June. 2024*
  Personal Project Report
  – Developed a lock-in amplifier for signal extraction using inverting amplifiers and **Sallen-Key filters** for both low-pass and band-pass filtering, ensuring precise signal isolation and amplification.
  – Implemented **modulation** with a clock pulse to multiply the input signal, using a **current switcher** circuit to shift the frequency spectrum. Integrated an LED and photodiode for amplitude-modulated light transmission, driven by **transconductance** and **transimpedance** amplifiers, and validated performance through FFT analysis.

- **Image Super Resolution** *May. 2024 - June. 2024*
  Team Project GitHub | Report
  – Developed an image super-resolution system using Super-Resolution Convolutional Neural Networks (**SRCNN**) with a three-layer convolutional network for superior image reconstruction.
  – Facilitated training on GPUs using **Keras**, and evaluated performance with metrics like **MSE**, **PSNR**, and **SSIM**.
  – Implemented Convolution, Activation, and Pooler modules on **FPGA** using Verilog HDL to enhance computational speed and efficiency.

- **Beyond Bits** *Jan. 2024 - Feb. 2024*
  Kriti'24, Electronics, IIT Guwahati GitHub | Report
  – Developed an analog calculator utilizing operational amplifiers (**op-amps**) capable of performing addition, subtraction, multiplication, and radix operations.
  – Integrated **Arduino** and **MCP4725** (DAC) for wireless input via IR remote control, following the BODMAS rule for operation sequence.

TECHNICAL SKILLS

- **Software Proficiency**: LtSpice, MATLAB, DEEDS
- **Programming**: C++, C, Python*, JavaScript
- **Web Development**: HTML, CSS, NodeJS*, MongoDB*
- **Python Libraries**: Numpy, Pandas, Matplotlib, OpenCV, Scikit-Learn
- **Hardware description language**: Verilog

* Elementary proficiency

KEY COURSES TAKEN

- **Electronics**: Analog circuits(Theory and Lab), Digital Circuits(Theory and Lab), Circuit Theory, Signals and Systems, Control Systems
- **Computer Science**: Introduction to Artificial Intelligence, Introduction to Computing, Computing Laboratory
- **Mathematics**: Probability and Random Processes, Ordinary & Partial Differential Equations, Linear Algebra

ACHIEVEMENTS

- **JEE (Advanced)**, Secured **AIR 5141** among 0.16 million candidates appeared for the test. *2022*
- **JEE (Main)**, Secured **AIR 5359** among 924k candidates appeared for the test. *2022*
- **Kriti, Electronics, IIT Guwahati**, Secured **5th place** in the Inter-Hostel Technical Competition. *2024*

EXTRA-CURRICULARS

- **Kriti, IIT Guwahati**, Participated in Inter-Hostel Tech meet for Software and Machine Learning. *2024*
- **StartOps, Senior Executive**, Facilitated an MVP workshop for StartUp Roar, guiding startup growth. *2023*
- **Roar with Idea**, Developed a website for startup-intern collaboration for Roar with Idea. *Project*
- **CureSpace**, Participated in InterIIT Tech Camp (Technical Board) SoftWare Problem Statement. *Project*