

MANYA JAIN

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EDUCATION

International Institute of Information Technology, Hyderabad

Aug. 2024 – May 2028

B.Tech in Electronics and Communications Engineering

Hyderabad, India

- **JEE Mains 2024: All India Rank X, Percentile 99.6**

PROJECTS

Non-Ideal Sampling & Audio Signal Analysis

Digital Signal Processing

- Developed reconstruction algorithms for **non-ideal sampling** under **timing jitter** and **random sample loss**, and implemented **drum beat detection** on real audio recordings, identifying hit timestamps and estimating decay duration.

Heart Rate Estimation from ECG Signals

Biomedical Signal Processing

- Analyzed ECG signals sampled at 128 Hz to estimate heart rate variability under noise-free and noisy conditions.
- Estimated heart rate per minute and tracked variability over time, comparing results between clean and noisy signals.

Bird Sound Analysis using Spectrograms

Audio Signal Processing

- Analyzed audio recordings of two distinct bird species using time-frequency representations to extract species-specific acoustic features.

Linux Shell Implementation

Systems Programming

- Implemented a **UNIX shell in C** supporting command execution using **fork()** and **exec()**.
- Added **job control** features including foreground and background process management and implemented **pipelines** to enable command chaining using inter-process communication.

TECHNICAL SKILLS

Programming Languages: C/C++, Python, JavaScript,

Hardware & Simulation: Verilog, LTspice, NGSpice, Computer Architecture, RISC-V ISA, MATLAB

LEADERSHIP & ROLES

- Managed events and logistics for E-Cell initiatives, overseeing registrations and end-to-end venue support for 300+ attendees.
- Coordinated venue operations for Megathon, Hyderabad's largest student-run hackathon, successfully supporting 1,100+ participants.

INTERNSHIP OBJECTIVE

- Seeking a **Software Development Internship** for the period **May – July**.
- Open to **remote** opportunities as well as **on-site roles** in **Gachibowli (Hyderabad)**, **Delhi**, **Noida**, and **Gurugram**.