

PRANJAL KRISHNANAND



EDUCATION

VNR Vignana Jyothi Institute of Engineering & Technology
B.Tech in Electronics and Communication Engineering

Aug 2024 – Jul 2028
Hyderabad, Telangana

PROJECTS

Praseom – Bioelectronic Sensor System (*LTspice, Op-Amps, Microcontrollers*)

- Modeled and simulated high-impedance bioelectronic sensors, specifically focusing on potassium sensor circuitry using LTspice to analyze complex transient responses.
- Architected the physical hardware prototype by sourcing, configuring, and integrating precision operational amplifiers and microcontrollers.
- Troubleshoot schematic alignments and optimized the signal-to-noise ratio to ensure high-fidelity functional biosensor readings.

High-Frequency Compensator & Transmission Network (*MATLAB, Oscilloscopes, Signal Generators*)

- Designed and analyzed lead/lag compensator networks to optimize system stability and significantly improve transient response in physical control systems.
- Evaluated high-frequency wave behavior by calculating complex transmission line equations and measuring intrinsic impedance across various hardware mediums.
- Verified theoretical mathematical models against physical hardware testing to ensure precise electromagnetic performance and signal integrity.

TECHNICAL SKILLS

- **Languages:** C, C++, Java, Python, JavaScript, SQL, Verilog, SystemVerilog
- **Web Technologies:** HTML, CSS, Spring Boot
- **Software & Environments:** AutoCAD, MATLAB, Simulink, NI Multisim, LTspice, Google Workspace, MS Office
- **Core ECE Concepts:** Circuit Simulation, Digital Logic Design, Signal Processing, Transmission Line Analysis, Bioelectronic Sensing
- **Hardware & Instrumentation:** Microcontrollers, Precision Op-Amps, Oscilloscopes, Function Generators, Multimeters

POSITION OF RESPONSIBILITY

- **Volunteer, ISTE (Indian Society for Technical Education):** Facilitated core hardware and technical sessions, and spearheaded end-to-end logistics for 2 major workshops, streamlining event operations and seamlessly managing a crowd of 300+ attendees.
- **Director of Photography & Core Member, VJ Teatro:** Managed event operations and coordination for VJ Teatro during Sintillashunz 2026; currently serving as the Director of Photography for the club, handling cinematography and camera work for upcoming short films and scene recreation projects.