PRANEETH TADEPALLI

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LinkedIn • Research Site

SUMMARY

Engineering graduate interested in analog VLSI design and analog neuromorphic computing research. Interested in advancing research in low-power circuit design, brain-inspired hardware, and emerging analog/mixed-signal systems.

INTERNSHIP EXPERIENCE

Mobile & Cloud Computing Laboratory (Mobile & Cloud Lab) - University of Hyderabad **May 2024 - Sep 2024**

- Charging circuit for Raspberry Pi 4 present in An Energy Efficient Fog-Based IoT Framework to Combat Wildlife Poaching
- Designed a reliable charging circuit for a Raspberry Pi 4 with solar panel, battery pack, solar charge controller, voltage step up regulator , USB-C breakout board and for safety of this circuit capacitor, poly-fuse and a switch.

PROJECTS

Neuromorphic and synapse circuits using Cadence Virtuoso

- Learnt and simulated Neuron circuits like Axon Hillock, Voltage Amplifier Integrate and Fire, Low Power Integrate Fire and Adaptive exponential integrate-and-fire models.
- Worked on Analog Implementation of Synaptic Plasticity/learning rules with circuits like Pair and Triplet based Spike Timing Dependent Plasticity.
- Worked on a BCM - Based ECG Signal Classifier application via Triplet based Spike Timing Dependent Plasticity with memristor circuit.

Hardware Implementation of Universal Active Filter

- Built Universal Active Filter with LM 741 IC (OPAMP) that can give Low Pass, High Pass and Band Reject Pass responses in the same circuit.
- Simulated the Universal Active Filter circuit in NI Multisim.

EDUCATION

Masters of Science in Electronics and computer engineering **Sep 2025 - May 2027**
University of Minnesota Twin Cities, Minneapolis

Bachelor of Technology in Electronics and communication engineering **Dec 2021 - May 2025**
IIITDM Kancheepuram, Chennai

- Specialization in Microelectronics and VLSI
- CGPA: 8.98

ADDITIONAL INFORMATION

- **Technical Skills:** MATLAB, C, Python, Verilog, Verilog A, System Verilog, LT Spice, Cadence Virtuoso, NI LabView, NI Multisim, Embedded C, Analog IC Design, Digital IC Design
- **Interpersonal Skills:** Design thinking, Highly motivated and eager to learn, Goal Oriented
- **Languages:** English, Hindi, Telugu
- **Certifications:** The Joy of Computing using Python - NPTEL (IIT Ropar), Introduction To Internet Of Things - NPTEL (IIT Kharagpur), VLSI Signal Processing - NPTEL (IIT Kharagpur)