Vinay Dinesh Bodalkar

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Professional Summary

Electronics & Communication (Avionics) graduate with hands-on experience in Analog VLSI Design, circuit simulation, signal processing, and space mission analysis. Proficient with Cadence Virtuoso, MATLAB, Python, and ANSYS STK. Currently working as a Technical Associate at Antrix Corporation Limited, Bengaluru.

Technical Skills

• C/C++, Python, MATLAB, Verilog | Cadence Virtuoso, LTspice, Simulink, KiCad, LabView, ADS, ANSYS STK
• OpenCV, NumPy, Pandas | Analog VLSI Design, Circuit Design, Digital Image Processing, R&D

Experience

Technical Associate: Antrix Corporation Limited, Bengaluru | Jun 2025 – Present

Working on satellite electronics subsystems, circuit simulations, documentation, and space mission planning using ANSYS STK.

Analog VLSI Intern: ISRO - SAC, Ahmedabad | Jan – May 2024

Designed 12-bit SAR ADC and CIC filter using Cadence Virtuoso and MATLAB.

Analog VLSI Intern: ISRO - SAC, Ahmedabad | Jun – Jul 2023

Developed OpAmp-based bandpass filter in Cadence Virtuoso.

Education

B.Tech – ECE (Avionics): IIST, Thiruvananthapuram | 2020 – 2024 | CPI: 6.51

12th – CBSE: G.H. Raisoni, Sukali | 2020 | 72%

10th – CBSE: St. Xavier's, Hingna | 2018 | 76.8%

Projects

• RFSoC ADC Simulation – CIC + 12-bit SAR ADC (MATLAB)
Developed a system-level simulation for high-speed ADCs using MATLAB. Designed and verified CIC filter and SAR ADC blocks for RF data applications.

• Bandpass Filter – OpAmp based (Cadence Virtuoso)
Designed a complex bandpass filter using a custom OpAmp. Performed schematic simulation, frequency response analysis and layout-level validation.

• Real-Time Sign Language Detection (YOLOv5, OpenCV)
Built a real-time computer vision system using YOLOv5 for gesture recognition. Detected and interpreted Indian Sign Language from video streams.

• IoT with BNN-enhanced Processor
Developed an efficient processor for IoT devices using Binarized Neural Network architecture, optimizing speed and power efficiency for real-time applications.

• Smart TWS Earphones with GPS & Touch Interface
Conceptualized and designed an IoT-enabled TWS earphone prototype with GPS, media playback, and touch screen integration, reducing dependency on smartphones.

Achievements

- • Cleared JEE Advanced – 2020
- • Nagpur City Topper – IMO (Class 9)