Ishan S. Vyas

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EDUCATION

Duke University   **Durham, NC**
*BSE in Electrical & Computer Engineering, Tau Beta Pi Society, **GPA** 3.98/4.0*   *May 2026*
- **Relevant Courses:** FPGA & Digital Systems, Semiconductor Physics and Devices, Hardware Acceleration, Computer Architecture, RF Information Propagation, Signal Processing, Quantum Mechanics
- Teaching Assistant for ECE 110: Fundamentals of Electrical and Computer Engineering
- Dean's List with Distinction: Fall '23, Spring '24, Fall '24

Hawken School   **Gates Mills, OH**
National Merit Finalist, AP Scholar, Outstanding Student in Physics, Cum Laude   *June 2022*

PROFESSIONAL EXPERIENCE

Intel Corporation   **Hillsboro, OR**
TD Module Engineer Intern   *May 2024 - August 2024*
- Reviewed 100+ papers on advanced deposition techniques and presented recommendations to 8 engineers
- Compiled and analyzed data to approximate load size effect on wafer thickness using JMP
- Expanded tool monitoring system by integrating preventative maintenance recipes, reducing tube flaking

R.E. Warner & Associates   **Westlake, OH**
Substation Electrical Design Intern   *May 2023 - August 2023*
- Managed and led design on high voltage substation upgrades totaling $250,000 in value
- Edited substation schematic and wiring diagrams, in line with regional and IEEE standards
- Headed design on pilot program to protect substations from high-altitude EMPs

Mercury Biomed   **Cleveland, OH**
Economic Development Intern   *June 2022 - August 2022*
- Developed financial model with a 7-year revenue projection, COGS prediction, & overhead expenses
- Completed robust patient warming industry analysis, including market size and competitor analysis

EXTRACURRICULAR INVOLVEMENT

Duke University APEX Lab   **Durham, NC**
Hardware Acceleration Researcher   *October 2024 - Present*
- Wrote C++ scripts and testbenches for verification of new systolic array RTL simulation for TPUs
- Ran verification tests for GCloud TPU using Google Cloud CLI and JAX scripts

Duke Electric Vehicles   **Durham, NC**
Member, Electrical Team   *January 2023 - Present*
- Built a blind-spot monitoring and detection device using ultrasonic sensing and C programming
- Designed circuitry for vehicle's turn signals, hazards, and brake lights

PROJECTS

Myoelectric Prosthetic Hand
- Using below CPU, created prosthetic controlled by forearm nerve impulses via surface electromyography
- Implemented sEMG signal hardware filtering and amplifying circuit and controlled PWM-based servo

Verilog MIPS CPU
- Designed and programmed 5-stage pipelined CPU with MIPS using Structural Verilog on Xilinx FPGA
- Implemented bypassing, hazard handling, and custom ALU including multiplication and division

SKILLS & INTERESTS

Technical Skills: Git, Altium Designer, Cadence PSPICE, AutoCAD Electrical, FPGAs, Test Equipment
Programming Languages: Java, C, C++, Python, MATLAB, R, Verilog, Chisel HDL
Languages: Native: English | Advanced: Spanish | Beginner: Gujarati
Interests: European Soccer, Cooking, Photography, Violin, International Relations, Home Foosball Champion