Arjun Nair

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Education

Bachelor of Science in Computer and Electrical Engineering, Double Major Aug. 2019 – May 2023
North Carolina State University *Raleigh, NC*

Relevant Coursework

- Digital System Design in Verilog • Computer Systems Programming • Data Structures and OOP for Computer Engineers • Embedded Systems • Physics of Microelectronics • Fundamentals of Logic Design • Analytical Foundations of Electrical and Computer Engineering • Circuits and Systems • Introduction to Signals • Discrete Mathematics for Computer Scientists

Work Experience

Electrical Engineering Intern May 2021 – Aug 2021
Edwards Vacuum (Atlas Copco Group) *Chelmsford, MA*

- Designed and printed circuit board schematics to be used in conjunction with 12 product lines
- Built test fixtures to perform Reliability Demonstration Testing on electrical sub-assemblies
- Performed Design Verification Testing (DVT) on various components and products using a variety of lab equipment

Projects

Autonomous Car Controlled by IOT | *Custom Car controlled by IOT that autonomously follows electric tape* Aug 2021

- Soldered and programmed MSP-430 board in C to work in conjunction with 2 DC motors and on-board IR emitter and detector
- Implemented Pulse-Width-Modulation to control wheels using on-board clocks and timers
- Used IOT module to control car navigation via WiFi using a custom web interface using UDP protocol
- Created H-Bridge board with pFETs and nFETs to allow forward and reverse control, along with power board consisting of 4 AA battery-pack

Practical Game Design | *Freshman Engineering Design Day (3rd Place)* Nov 2019

- Designed a game body structure using SolidWorks
- Ported design to 3D printing machine to create a prototype and complete the product assembly
- Conducted user testing of the novel game to verify application, structural integrity, and feedback

Phantom Power Supply | *High School Music Department* Sep 2018

- Designed and built a Phantom Power Supply to power cardioid microphones
- Developed an integrated circuit, populated PCB with discrete components, and tested the product for functionality

Technical Skills

Languages: C/C++, Python, Verilog, VHDL, Assembly, MATLAB, HTML
Circuit Design: Altium Designer, PSpice, Logic Design, Soldering, Verification Testing, SolidWorks
Misc: Microsoft Word, Microsoft Excel, Adobe Photoshop