Arjun Nair

919-786-3251 Email LinkedIn GitHub Website

Education

Bachelor of Science in Computer and Electrical Engineering, Double Major Aug 2019 – May 2024
North Carolina State University *Raleigh, NC*

Relevant Coursework

- ASIC & FPGA Design in Verilog, Digital System Design in Verilog, Embedded Systems, Computer Systems Programming, Data Structures and OOP, Physics of Microelectronics

Technical Skills

Languages: C/C++, Embedded C, Python, Verilog, VHDL, Git, Assembly, MATLAB, HTML
Circuit Design: Altium Designer, Mentor Graphics Xpedition, PSpice, PowerDC, Logic Design, Verification Testing

Work Experience

Intel Corporation May 2022 - Dec 2022
R&D IC Package Design Engineer Intern *Chandler, AZ*

- Assisted in **designing** and **routing** package layout for **DDR**, **UCIe** and **6** other **Intel packages**
- Performed microelectronic **IC package** electrical **modeling** and **simulation** using tools such as Xpedition, PowerDC
- Designed **manufacturing drafts** (die/die bonding diagrams, packing specs, mark specs, Bill of Materials list, etc)
- Worked closely with relative **teams**, **clients** and **vendors** to support **production** and establish problem specifications
- Applied Python and C for **scripting** to streamline processes department-wide

Edwards Vacuum May 2021 – Aug 2021
Electrical Engineering Intern *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**
- Applied **EMIC** principles to ensure electronics were compliant with **industry standards**

Projects

Multi-Stage Neural Network | *Verilog* Aug 2022

- Implemented a hardware-based multi-stage **neural network**, including a convolutional layer, a fully connected layer and a max pooling layer
- Applied **algorithms** to efficiently read and write data to and from input and output **SRAMs**
- System generates output matrix which can be used to **classify** objects
- **Optimized** design to ensure **top 1%** in cycle-count and area among **300** classmates

Autonomous Car Controlled by IOT | *Embedded C, Python, MATLAB* 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** and modelled motor characteristics in **MATLAB**
- Used **IOT** module to control car navigation via **WiFi** using a custom web interface using **UDP protocol**
- Implemented onboard **serial communication** using **SPI** protocol and tested and **debugged** device using **logic analyzer**

Activities & Awards

Intel Department Recognition Award (For work on DDR routing) Nov 2022
IEEE at NCSU (Member) Jan 2022 - Present
Rock Climbing Club (Member) Aug 2021 - Present
NCSU ESports Club (Varsity Team) Aug 2019 - Present