KARAN VENAIK

Houston, TX 77054

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EDUCATION

Rice University, Houston, TX **Projected: June 2024**

Master of Electrical and Computer Engineering

Coursework: Advanced Digital IC Design, Advanced VLSI/FPGA Design, Computer Architectures, Embedded Linux

ECE Future Star Scholarship

The University of Texas at Tyler, Tyler, TX **June 2021**

Bachelor of Science in Electrical Engineering (BSEE) **GPA: 3.90/4.00**

Summa Cum Laude, President's Honor Roll, Dean's List, IEEE

EXPERIENCE

Trane Technologies – American Standard, Tyler, TX **December 2021 – August 2021**

Systems Automation Engineer

- Produced specifications, procedures, and best practices for verification and validation of software on next generation embedded smart HVAC controls.
- Developed Python frameworks and test cases to automate 70% of manual tests for smart HVAC Human Interfaces (HI) and system controllers.
- Developed an automation tool to improve system controller/hub flashing speed by nearly 2000% compared to inbuilt OTA upgrade, reducing time consumption and human error.
- Improved team efficiency in testing and verifying over 1350 functional requirements/test cases and achieved over 95% requirement pass rate 2 months ahead of schedule.

The University of Texas at Tyler, Tyler, TX **August 2020 – June 2021**

Senior Design Project Lead

- Led a team of 4 electrical engineering students and designed innovative WPT (Wireless Power Transfer) system capable of powering 2 receivers simultaneously from 1 transmitter coil.
- Developed and simulated 25+ full bridge inverter, rectifier, load detection and frequency hopping circuits in LTSpice/MATLAB resulting in valid models showcasing working WPT system.
- Designed and soldered 2 PCB (Printed Circuit Boards) completing 100% final prototype assembly.
- Prepared and managed 6 design review presentations/product demonstrations and 2 technical documents outlining the process taken to design the product to required specifications, successfully meeting required specifications of 10W to each load.

PRO Hydronic Specialties, Henderson, TX **March 2020 – September 2020**

Project Engineer Intern

- Redesigned and fabricated portable flow meter for data acquisition and data processing of pressure and flow rate parameters in hydronic systems.
- Programmed in C/C++ to display pressure, flow rate, and user menu for option selection.
- Rectified circuit design and wiring increasing data acquisition accuracy by 15% and simplifying calibration.
- Soldered, assembled, and tested 20+ fully functioning systems for customers.

The University of Texas at Tyler, Tyler, TX **August 2019 – June 2020**

Undergraduate Research Assistant

- Led team of 3 Electrical/Mechanical engineering students in product design of drug perfusion system focused on cost reduction and additive manufacturing techniques resulting in a 50 times more affordable system than current on-market systems.
- Designed, prototyped, and performed testing of the electrical subsystem resolving technical problems and meeting 100% design specifications.
- Exercised communication skills through 3 oral presentations on the conducted research progress, benefits, and future of the perfusion system design at an undergraduate research conference.
- Utilized technical writing to prepare and manage technical documentation describing the systems' research, development, testing, and assembly process.

SKILLS

- **Programming** – C/C++, Python, MATLAB, Java, Verilog HDL
- **Software** – LTSpice, MATLAB Simulink, Xilinx Vivado, VS Code, Linux