Vinh Hoang

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Objective: Seeking full time position in firmware engineering, FPGA, or embedded design.

Skills:

- **Programming Languages** C, C++, Verilog, Python, MATLAB
- **Development Tools** ModelSim, Arduino, ANSYS, JMP, AWS, Quartus, FPGA
- **Computer-Aided Design** SolidWorks, AutoCAD, Inventor

Education:

Master of Science in Computer Engineering (MSCE) University of Houston, GPA: 3.8 December 2022
Master of Science in Mechanical Engineering (MSME) University of Houston, GPA: 3.7 December 2018
Bachelor of Science in Mechanical Engineering (BSME) University of Houston, GPA: 3.8 May 2014

Computer Engineering Projects:

Bluetooth-Controlled Robot January - May 2021

- Built a robot with Real-Time OS implementation in Embedded System/IoT course. Programmed the MSP430 microcontroller board with Bluetooth module using C language to drive stepper motors, control LED and line sensors so the robot can detect line markings to follow along. In addition, its movement can also be controlled via an App.
- Utilized FreeRTOS to perform round-robin tasks: retrieving BLE signals and reading sensor signals, including interrupts to stop any motion when facing obstacles.

FPGA-based Memory Game January - May 2021

- Led a team in Advanced Digital Design class to build a number-memory game on the Altera Cyclone V FPGA board.
- Finalized system architecture; wrote digital logic modules with finite-state machine, including write/read through RAM, LFSR random number generator, FIFO, timer by collaborating with team members.

Professional Experience:

INTEL – **FPGA Digital Design Intern** – Santa Clara, CA September 2022 - December 2022

- Validated Verilog modules in FPGA within a hardware platform for testing new IP. Built testbench in ModelSim and synthesized Verilog to FPGA for debugging. Monitored signals using Analog Discover to test I2C protocols.
- Implemented memory driver in C within FPGA soft processor to configure read/write between RAM and FPGA.
  Technology used: Verilog, C, Quartus Prime

MYTHIC – **Production/Test Engineer Intern** – Austin, TX June 2022 - August 2022

- Wrote Python script to extract statistical data from Amazon Web Service. Analyze the process capability index from results of probe and final silicon wafer tests and built a Tableau dashboard and sync with to visualize the data.
- Find correlation between parameters in Wafer Acceptance Test and analog readings from Automatic Test Equipment machine using JMP. This effort helps to identify correlation between pre-silicon and post-silicon performance.
- Contributed to validating 200+ digital tests by compiling firmware and wrote script to run test batch on silicon chip. Successfully passed 90% tests on the first day of new silicon revision.
  Technology used: JMP, Python, Tableau, Linux, AWS

UNIVERSITY OF HOUSTON – **Research Assistant** – Houston, TX June 2021 – December 2022

- Master Thesis Project: Developed a network packet reordering algorithm in FPGA using a pipelined approach to effectively sort packet in two clock cycles.
  Technology used: Verilog, ModelSim, FPGA, Python
- Research Project: Trained models using a binarized convolution neural network in Python to detect and categorize material defects for applications in real-time manufacturing inspection on the Terasic SoC kit.

HALLIBURTON – **Mechanical Sustaining Engineer** – Houston, TX June 2018 - May 2020

- Proposed and executed design updates to existing drilling equipment, performed root-cause analysis of failures, and monitored the effectiveness of improvements to the product's life and efficiency.
- Resolved non-conformity reports and issues from manufacturing and vendors to reduce delays in manufacturing.

SCHLUMBERGER – **Mechanical Design Engineer** – Houston, TX February 2015 – June 2017

- Developed and tested subsea production system across various stages of product life cycles: product development, project execution, testing, and aftermarket supports.
- Delivered detailed structural design, including FEA simulation with hand-calculation to verify; created models and machining drawings utilizing Inventor and GD&T, by coordinating with a team of engineers and drafters.

Computer Engineering Courses:

Computer Hardware, Computer Architecture, Embedded System and RTOS, Digital Design, Hardware Verification, Machine Learning and Computer Vision, Control Systems.