Bao Nguyen

Electrical Engineer Student

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Education

Oregon State University *Expected Graduation 2021*

B.S. in Electrical and Computer Engineering - 3.9 GPA *2018-PRESENT*

- Planned minors in Computer Science and Chemistry
- Current Courses: Operating System 1, Probability and Random Signal, VLSI System Design

Work Experience

Undergraduate Researcher *Corvallis, OR*

Open-Sensing Lab *Jan 2019 - PRESENT*

- Develop mechanical and electrical for project with optimization for manufacturability
- Perform board level design using Eagle, assemble PCB, and prototype verification with multi-meter and oscilloscope
- Lead Hypnos project as standard power management add-on with real-time clock and microSD holder
- Organize lab-size manufacturing for standard lab PCBs

Admission Officer *Salem, OR*

International Programs *Feb. 2017 - Aug. 2018*

- Coordinate tasks between officers in process and shipping international student application
- Design responsive HTML email template to replace all email communication
- Build automatic email system through Hobson Radius database to reduce repetitive emailing time by half
- Give training to new international admission officer to work independently in 3 weeks

Skills

Design Intermediate in Eagle PCB, LTSpice, Fusion360

Programming C, C++, HTML, SystemVerilog, AVR Assembly

Projects

eDNA Sampler
An automated solution for filtering water for genetic material at remote location to reduce labor intensive task
Feature micro-controller with browser based interface, up to 24 filters per deployment
Design and fabricate PCBs with testing/troubleshooting in collaboration with embedded software lead

Hypnos Board
Design PCB and test a drop in solution with Adafruit Feather footprint with real-time clock, microSD card reader and MOSFETs circuitry to control power
Design Eagle parts footprint, 2-layers PCB layout and MOSFET simulation. Included on GitHub

PS2 Keyboard Handler
Implement FPGA Driver for PS2 keyboard and output to VGA screen using System Verilog.
Each function module like counter, shift register, data decoder, and error checking module are simulated input/output using ModelSim before integrated into a larger system

Remote to Robot
Wrote and implemented AVR assembly for USART IR remote between two ATmega128 micro-controllers. One board acts as a remote and other as robot. Each transmission contains 16 bits with the first 8 bits being the robot ID, following by 8 bits of action code.

Honors & Awards

2019 **Drucilla Shepard Smith Scholastic Award**, Oregon State University *Corvallis, OR*

2019 **Helping Hand**, College of Engineering Hweekend - The most helpful team toward others *Corvallis, OR*

2017 **2nd Place**, Chemeketa Knowledge Bowl - Trivial with STEM, literature, and history *Salem, OR*

2016 **1st Place**, It's is about time - Oregon State Science Olympiad - Most Precise Water Clock *Corvallis, OR*