

Cuong Nguyen

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EDUCATION

The University of Scranton

Expected May 2023

B.S., Computer Engineering and B.S., Computer Science, GPA: 3.83

EXPERIENCES

HamSCI Personal Space Weather Station - FPGA Developer

May 2021 – Present

- Design of the TangerineSDR, a high-performance low-cost radio receivers for scientific research.
- Programming, testing of the FPGA that facilitates remote system upgrade, the data processing (ADC, filters, etc.) and communication (SPI, I²C, UART, Ethernet) between hardware components.
- Programming of the soft core NIOS processor that sets up the networking with local computer and remote servers
- Worked with scientists, engineers, and hobbyists from every continent.
- Volunteer at physics summer camps for local high school students to inspire their interest in physics and advanced radio technology

University of Scranton - Technical Consultant

February 2020 - Present

- Supporting faculty in learning management software
- Developing websites for internal statistics, data analysis, and faculty personal information

PROJECTS

NASA RockOn

Spring 2022

- Project leader in the assembly of a payload that was launched into space aboard a sounding rocket
- System recorded the following physical parameters during flights: speed, acceleration, orientation, temperature, humidity, radiation

Bluetooth-Activated Micromouse

Fall 2019 - Present

- Project leader of an engineering project that designs a robot capable of autonomously traversing the maze upon a Bluetooth-transmitted command from users.
- The Arduino microcontroller runs a high-level algorithm that almost always navigates the robot on the shortest path during the first run. The microcontroller also controls the motor to prevent jitters in movements.

Automated Slide Stainer

Fall 2021 – Present

- Facilitation of immunohistochemistry-based cancer research via research-friendly and cost-effective laboratory instruments using stepper motors, electromagnets, ESP32, Bluetooth mobile app, and so on.
- Immunohistochemistry involves the selective identification of antigen expression in a biological sample.

WWV Signal Timing Analysis: studying the effects of upper atmosphere on transmitting radio signals

Academic Question Generator: a web-based academic tool that generates randomized questions in many subjects.

Touchless Hand Gesture Garage Opener: a group project that produces a wireless universal device which performs multiple operations with any garage upon hand gesture commands.

SKILLS

HDL: Verilog, Platform Designer, ModelSim, Quartus.

Software: machine learning, data structures and algorithms, Python, MATLAB, C, C++, Assembly, Git, kernel, Linux, WSL, SSH, GPU acceleration, raytracing.

Hardware: FPGA, microcontrollers (Arduino, ESP32, PIC), embedded systems, control systems, communication systems, PCB Design, circuit design, THT and SMT soldering.

LEADERSHIP AND ACADEMIC HONORS

Institute of Electrical and Electronics Engineers (IEEE) | President

Spring 2020 – Present

Eta Kappa Nu Engineering Honor Society | Vice-President

Fall 2020 – Present

The University of Scranton | Liva Arts Company, Musical Co-Director

Spring 2020

The University of Scranton | Dean's List

Fall 2019 – Present

Sigma Pi Sigma Physics Honor Society

Fall 2021 – Present

Upsilon Pi Epsilon Computing Sciences Honor Society

Spring 2022 – Present