Michael Nguyen

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Education

Carnegie Mellon University Pittsburgh, PA — May 2024
Bachelor of Science, Electrical and Computer Engineering
Minor, Intelligent Environments

Work Experience

Teaching Assistant — Jan 2021 – May 2021
Electrical and Computer Engineering Dept, Carnegie Mellon University Pittsburgh, PA
- Taught and directed labs for 2 small groups of 6 students for 18100 Intro to Electrical/Computer Engineering
- Assisted in the grading and instruction of about 100 students
- Directed students in the programming of the Arduino MKZero for I2C communication and digital signal processing
- Created practice problems on Boolean Algebra, Von Neumann computer architecture, and Operational Amplifiers

Research Programming Assistant — Aug 2020 – Aug 2021
CyLab, Carnegie Mellon University Pittsburgh, PA
- Developed Alternate Reality systems and 3D georeferenced models under Dr. Yang Cai, using Python, GIS, Blender, and JavaScript
- Created Point Cloud Models of various CMU landmarks using Python, JavaScript, and Bash Scripting
- Adapted Windows software to work on Linux and Unix computing clusters and take advantage of multithreading and GPU acceleration

Robotics Instructor — Nov 2019 – May 2020
Genius Hangout LLC Cumming, GA
- Planned and instructed a class of students in mechatronics and coding in graphical C
- Coached for 4 intermediate & 4 beginner robotics teams in local VEX IQ tournaments

Data Science Research Intern — Summer 2019
Center for Space Research, UT Austin Austin, TX
- Developed Python scripts to handle data from the ICESat-1 and ICESat-2 Satellite missions and create two dimensional and three-dimensional graphs
- Created maps using GIS tools and data from the 2000 Shuttle Radar Topography Mission
- Presented at MIT Undergraduate Research Conference 2020

Projects

Self-Guided Electronics Design Research — Nov 2019 – May 2020
Central Processing Unit, Single Event Effects Prediction Cumming, GA
- Investigated the possible correlation between CPU geometry and Single Event Effect (SEE's) from Ionizing Radiation in Spaceflight with help from the Johnson Space Center (NASA-JSC)
- Documented the relationship between Computer Architecture and Single Event Effects, and their influence on device failures
- Won U.S. Air Force Achievement Award at Georgia Science and Engineering Fair and 1st place at the Regional Science Fair

Leadership

VP of Communications, Students for the Exploration and Development of Space**,** Carnegie Melon — Jul 2021
Secretary, CMU Explorers (Outdoors/Climbing Club), Carnegie Mellon — Oct 2020
- Organized and documented officer and general body meetings
- Managed organization communications

Project Advisor, Project Ignite, Carnegie Mellon — Oct 2020
- Instructed high school students in probe design and path planning in Python
- Worked with other instructors to develop coursework and lesson plans

Relevant Coursework

Computer Science: Imperative Computation
EE/CompE: Structure and Design of Digital Systems, Computer Systems
Robotics: Computer Vision, Mechanical Engineering
Nontechnical: Linear Algebra, Multivariable Calculus, Global Business

Skills & Awards

Hardware: SystemVerilog, Verilog, Intel Quartus, Altera FPGA (Cyclone V)
Programming Languages: C, C++, Java, Python, GDB
Robotics Technologies: Computer Vision, Machine Learning
Software: Git, Google Colab, SolidWorks, MatLab, Linux Command Line, Unix Command Line, Bash, vim, VS code, Visual Studio,
Manufacturing: CNC Mill, 3D printers, Soldering, Breadboard
Awards: Eagle Scout: Silver, Gold and Bronze Palms (Jan 2019), VEX Robotics State Champion (Feb 2020), 4th Place Technology Division at VEX Robotics World Championship (Apr 2019)