

# Michael Nguyen

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## Education

<b>Carnegie Mellon University</b> Pittsburgh, PA	May 2023
Bachelor of Science, Electrical and Computer Engineering	
Minor, Intelligent Environments	

## Work Experience

<b>Teaching Assistant</b>	Spring 2021
<b>Electrical and Computer Engineering Dept, Carnegie Mellon University</b> Pittsburgh, PA	
<ul style="list-style-type: none"><li>Taught and directed labs for 2 small groups of 6 students for 18100 Intro to Electrical/Computer Engineering</li><li>Assisted in the grading and instruction of about 100 students</li><li>Directed students in the programming of the Arduino MKZero for I2C communication and digital signal processing</li><li>Created practice problems on Boolean Algebra, Von Neumann computer architecture, and Operational Amplifiers</li></ul>	
<b>Research Programming Assistant</b>	Aug 2020 – May 2021
<b>CyLab, Carnegie Mellon University</b> Pittsburgh, PA	
<ul style="list-style-type: none"><li>Developed Alternate Reality systems and 3D georeferenced models under Dr. Yang Cai, using Python, GIS, Blender, and JavaScript</li><li>Created Point Cloud Models of various CMU landmarks using Python, JavaScript, and Bash Scripting</li><li>Adapted Windows software to work on Linux and Unix computing clusters and take advantage of multithreading and gpu acceleration</li></ul>	
<b>Robotics Instructor</b>	Nov 2019 – May 2020
<b>Genius Hangout LLC</b> Cumming, GA	
<ul style="list-style-type: none"><li>Planned and instructed a class of students in mechatronics and coding in graphical C</li><li>Coached for 4 intermediate &amp; 4 beginner robotics teams in local VEX IQ tournaments</li></ul>	
<b>Data Science Research Intern</b>	Summer 2019
<b>Center for Space Research, UT Austin</b> Austin, TX	
<ul style="list-style-type: none"><li>Developed Python scripts to handle data from the ICESat-1 and ICESat-2 Satellite missions and create two dimensional and three-dimensional graphs</li><li>Created maps using GIS tools and data from the 2000 Shuttle Radar Topography Mission</li><li>Presented at MIT Undergraduate Research Conference 2020</li></ul>	

## Projects

<b>Self-Guided Electronics Design Research</b>	Nov 2019 – May 2020
<b>Central Processing Unit, Single Event Effects Prediction</b> Cumming, GA	
<ul style="list-style-type: none"><li>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)</li><li>Documented the relationship between Computer Architecture and Single Event Effects, and their influence on device failures</li><li>Won U.S. Air Force Achievement Award at Georgia Science and Engineering Fair and 1st place at the Regional Science Fair</li></ul>	

## Leadership

<b>VP of Communications</b> , Students for the Exploration and Development of Space, Carnegie Mellon	Jul 2021
<b>Secretary</b> , CMU Explorers (Outdoors/Climbing Club), Carnegie Mellon	Oct 2020
<ul style="list-style-type: none"><li>Organized and documented officer and general body meetings</li><li>Managed organization communications</li></ul>	
<b>Project Advisor</b> , Project Ignite, Carnegie Mellon	Oct 2020
<ul style="list-style-type: none"><li>Instructed high school students in probe design and path planning in Python</li><li>Worked with other instructors to develop coursework and lesson plans</li></ul>	

## Relevant Coursework

Computer Science: Computer Vision, Imperative Computation  
EE/CompE: Structure and Design of Digital Systems  
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), 4<sup>th</sup> Place Technology Division at VEX Robotics World Championship (Apr 2019)