Thanh Nha Nguyen

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Education

Massachusetts Institute of Technology (MIT) **Class of 2019**

Bachelor of Science in Mechanical Engineering GPA: 4.7/5

Coursework: Mechatronics, Numerical Simulation, Analog Electronics, Power Electronics, Mechanics and Materials, Feedback Controls, Bioinspired Robotics, Medical Device Design

Experience

XYZ Robotics - Mechatronics Engineer **June 2019 - March 2020**

XYZ Robotics is a new startup developing technologies to enable better package sorting in warehouses.

- Created a magnetic tool changer for fast pneumatic tool changes on a robotic arms (patent pending)
- Created a package speed syncing mechanism (patent pending).
- Design new end-of-arm tools for industrial robotics arm.
- Develop electrical system for all projects within the company.
- System integration of software and hardware.

MIT Media Lab Fluid Interfaces - Undergraduate Researcher **September 2018 - June 2019**

Hardware development of AttentivU, a smart glasses capable of detecting user attention span based on EEG and EOG measurement.

- Industrial design of a pair of glasses to fit sensors and electronics.
- PCB design of the electronics: bluetooth communication, EOG, EEG.

Cruise Automation - Technical Intern **Summer 2018**

Developed a new benchmark to evaluate camera intrinsics calibration

- Created a camera intrinsic calibration to fix lens distortion using OpenCV
- Formulated a new metric to evaluate the calibration parameters.

MIT Precision Engineering Research Group - Undergraduate Researcher **February - May, 2018**

Made a new type of bearing for a progressive cavity pump

- Developed a new kind of bearing to accommodate the eccentric motion of a progressive cavity pump.

Intel's Sport Innovation Studio - Technical Intern **Summer 2017**

Developed a wireless charging station at $1/60^{th}$ of the budget

- PCB layout of the Qi wireless charging circuit on Cadence
- Designed and built a wireless charging station for 24 devices.

Leaderships and Awards

Fast Company's World Changing Ideas Awards Honorable Mention - AttentivU **2019**

AutoUI Honorable Mention - AttentivU **2019**

East Campus Residence Exploration - Design Lead and Foreman **2016, 2017, 2018**

- Created a human-powered carousel called #YOLO (http://tinyurl.com/z5rpnmf).
- Created a human-sized gyroscope called Space Trainer (https://youtu.be/dnuJcmvq31M)
- Created a 60 ft long and 20 ft tall arch brige (http://gregcookland.com/wonderland/2018/09/01/mit-fort/)

Publications

"AttentivU: A Biofeedback System for Real-time Monitoring and Improvement of Engagement" (2019). In: *CHI Conference on Human Factors in Computing Systems*.

"AttentivU: a Wearable Pair of EEG and EOG Glasses for Real-Time Physiological Processing" (2019). In: *IEEE International Conference on Wearable and Implantable Body Sensor Networks*.