Ngo Quoc Huy

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Personal Introduction

I am currently a Junior Mechatronics Engineering student at Fulbright University Vietnam. Even though I am eager to pursue knowledge in every aspect of engineering, my interests mainly focus on mechanical design, embedded systems, and robotics. The majority of my experience has involved building some personal project-based learning related to optimizing automation processes, being a research assistant and teaching assistant for professors.

My online portfolio with details: **qhuy291102.github.io/nqhporfolio.github.io**

Education

Fulbright University Vietnam *Ho Chi Minh city, Vietnam*

Bachelor of Engineering in Mechatronics Engineering *August 2021 - May 2025*

Quoc Hoc Hue high school for the gifted *Thua Thien - Hue, Vietnam*

Physics major student *August 2017 - May 2020*

Working Experience

Work Study Program: Project Research Assistant *Fulbright University Vietnam*

Lab Apparatus and Machine Learning Applied in Structural Health Monitoring *September 2022 - December 2023*

- Working as part of a four-member team of student research assistants, we are under the mentorship of Prof. Nguyen Hop Minh, the founding engineering faculty at FUV, and Mr. Tran Thanh Thai, the Associate Director of FUV Makerspace.
- Designing a laboratory device to sense and predict changes in strain and stress of material beams. The project involved collecting and processing data, then analyzing to train machine learning models for improved structural health detection of materials.

Work Study Program: Engineering Teaching Assistant *Fulbright University Vietnam*

Design and System Thinking course

Sensor, Measurement, and Analysis course *May 2022 - Current*

- Prepare and deliver engineering workshops (i.e.: Safety Guidelines, Handtools Training, Electrics, and 3D Model Design).
- Operating CNC machine, Laser cutting, and 3D Printing for student's projects.
- Collaborate with professors and teaching team in administration tasks, leading the lab and discussion sessions.

Personal Projects and Achievements

4-DOF Robotic Arm For Astronomical Objects Autotracking *Leader*

Mechanical Design, Electronics Design, Automation, Astronomy *2018 - 2019*

- The device is a mechanical robotic arm with 4-DOF (degrees of freedom) so that it can simulate the motion of the Earth to navigate the telescope and stay fixed on any astronomical objects automatically.
- By applying the properties of anti-backlash worm gear for driven mechanism, the motion resolution of the robotic arm is extremely small, up to 1.116 arcseconds (0.00031 degrees), so that it can keep any space objects within the telescope's view for all day.
- **Awards:**
  - Winned the 4th place of National Science and Engineering Contest 2019.
  - Winner of Youth Innovation Contest 2019.

Automatic Wood's Cellular Stabilizing System Applying Pneumatic Control *Leader*

Mechanical Design, Automation, Structural Analysis, IoT *2019 - 2020*

- The project aims to turn the entire human-dependent process of wood stabilization using epoxy resin into an automatic production chain based on pneumatic valves and IoT control.
- Wood cellular structure will be impregnated with epoxy resin to increase their dimensional stability and change the wood's properties under pressure and vacuum.
- **Awards:**
  - Winner of the Provincial Science and Engineering Contest 2020.
  - Winner of Youth Innovation Contest 2020.

Skills

Mechanical Design Autodesk Fusion360, AutoCAD, Autodesk Revit, Autodesk CFD

Circuit Design Design and Analyze PCB on Altium Designer

Manufacturing 3D Printing, Laser Cutting, CNC Operation, Heavy Handtools

Programming Python, C++, Matlab, HTML