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BAO NGUYEN

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EDUCATION

Vanderbilt University   Nashville, Tennessee
- **Bachelor of Engineering**, Computer Engineering, May 2020.   In major GPA: 3.92/4.00

Relevant Coursework

Current: Intermediate Software Design, Computer Organization, Electronics, Signals and Systems, Differential Equations with Linear Algebra

Completed: Digital Logic, Program Design and Data Structures, Technical Communications, Multivariable Calculus, Circuits I

EMPLOYMENT

Research Assistant   **VUSE Summer Research Program**   **Summer 2017**

Project: Electrical Switching of VO_2 for Silicon Waveguide Modulator

Objective: Integrate Vanadium Dioxide (VO_2) into Silicon Waveguide to act as an Electro-Optics Modulator. Device used as a nanoscale electrically controlled optical switch.
- Use COMSOL and LabVIEW to simulate different environment settings to determine further improvements for VO_2 switching recovery time
- Design experimental setup to test electrical switching stability of sub-micrometer VO_2 patches

EXPERIENCE

Vanderbilt Robotics Club, Student Organization   **August 2016 – Present**

Member, Programming Team, Electronics Team

Club objective: build a robot to compete in VEX Robotics Competition Starstruck
- Design a program to command the robot to do specific tasks: throwing a star-shaped object, pushing a cube to a desired position, and hanging itself on a horizontal rod. (Using RobotC, C based)
- Extract and use raw data from an Inertial Measurement Unit (IMU) that measures the acceleration and rotations of the robot to control its movement in two directions.
- Configure a pixel camera to measure the position of a desired object in terms of 3D coordinates, which is used to locate the star-shaped objects and the cube.
- Improve the robot's movement by applying PID Controller, which continuously takes feedback from the distance travelled to achieve higher accuracy and stability.

VandyApps, Student Organization   **August 2016 – Present**

Member
- Plan and participate in workshops on Web Dev, Android, iOS Coding, Interview and Recruiting Practice. Practiced on technical interview questions.
- Organize tech talks from technical companies such as Facebook, Google, Capitol One, etc.

PROJECTS

Calculator – Calculator app for iOS that performs basic arithmetic operations and graphing capability.

Dota 2 Comedic Stats – An iOS app that provides users with comedic statistics regarding their personal playstyles compared to that of DotA2 Pro Players.

Prusa i3 3D Printer – Assembled and programmed a common DIY 3D Printer.

LANGUAGES AND TECHNOLOGIES

- **Proficient:** C++, Java, Arduino (I2C Library), Git
- **Familiar**: Swift, Python, COMSOL