**An Cao**

Mobile: 8573995530(USA)

0961830767(VN)

22 Lanh Binh Thang street, District 11, Ho Chi Minh City

Email: [xuanan12072002@gmail.com](mailto:xuanan12072002@gmail.com)

Github: <https://github.com/acao2002>

**EDUCATION**

**Vanderbilt University     TN, USA**

**School of Engineering**

**BS. Computer Science**

*2020-2024*

**Selected Coursework:** Linear Algebra, Calculus 3, Programming and Problem Solving, Data Structures

**GPA:**  3.6

**COMPUTER SCIENCE AND ENGINEERING EXPERIENCES**

**12th Grade Engineering Research Project**

***Programmer and electrical engineer.***  *2019-2020*

* Built an automatic trash bin that can be controlled via a phone app - mainly for disabled people or people working in offices
* Utilized ultrasonic sensors, light sensors, and Mecanum drive system.
* Used PID(Proportional, Integration, Derivative) control system to automate and precisely measure motion.
* Used C( Arduino), Java(app), and Python(server and computer vision) to program the system.
* Paper: https://drive.google.com/file/d/1t47wuzvR15X3JGvWso9eJdDI0sxZgopj/view?usp=sharing

**FIRST Robotics**

***Founder, team captain and programmer*** *2017- 2019*

* Founded the FIRST Robotics team of The MacDuffie School: “The Mechanical Mustangs”
* Secured over 8000 dollars for the team throughout 2 seasons
* Participated in 4 regional events with 2 robots
* Used Java in programming robots
* Winner of 2020 West MA tournaments
* Top 10 robots at Massachusetts in 2020

**Vigg Startup**

***Co-founder and FrontEnd developer*** *2020-2020*

* Used ReactJs and Bootstrap to build the FrontEnd of Vigg- a platform to sell and retail sneakers
* Used Context API for state management and product display
* Code: https://github.com/Vigg-sneakerhead/reactfrontend

**PhysioCare**

***Software developer*** *2020-now*

* Used ReactJs and Bootstrap to build the web interface for automatic physiotherapy system
* Currently applying for license and testing at local hospitals for universal adoption of the system in Vietnam

**COMPUTER SCIENCE AND ENGINEERING PERSONAL PROJECTS**

**Chatbot**

***Machine Learning project*** *2020-present*

* Used python and machine learning to develop a chatbot of myself that can reply to people’s questions about me.
* Vectorize words using a tokenizer and padd data for training
* Keras + LSTM model + Softmax activation function for classification of intents

**AI Snake using deep Q learning**

***Reinforcement learning project*** *2020-present*

* Used Python, OOP, and Q-learning to build an AI to play snake
* Snake can earn about 50 points per game after being trained 10000 times
* Could be improved by expanding snake vision and incorporating deep Q learning

**Logix - Voice AI assistant**

***Web scraping and voice assistant*** *2020-present*

* Used Python, Selenium, and speech\_recognition library to build a voice-assisting system on laptop
* Automatically close/open registered applications using voice commands
* Submitted to VandyHacks Hackathon. Submission can be found at https://devpost.com/software/personal-laptop-voice-assitance-using-python

**Awards and Achievements**

***FIRST Robotics Competition Rookie Inspiration Award:*** received in 2018 for outstanding success in advancing respect and appreciation for engineering and engineers, both within their school, as well as in their community.

***Recipient of the 2018 Argosy Foundation FRC® Rookie Grant:*** 4000$ for qualified rookie robotics teams.

***Winning Alliance at 2020 Wild West FTC***

***Competitive programming:***

* Participated in Google KickStarts
* Participated in Google Code Jam

**ECONOMICS AND BUSINESS ACTIVITIES**

**China Thinks Big International Research Competition**

*2017-2018*

***Vice-captain and researcher***

* Studied plastic bottles usage and recycle frequency in Vietnam
* Design a smart bottle with a biodegradable cap and reusable body along with a system of distribution and collection.
* Build a business plan and a system of practical implementation of the model.
* Made it to the quarter-finals of the National Round.

**SOCIAL ENTERPRISE/RESPONSIBILITY ACTIVITIES**

**StemHouse Education Math and Science curriculum-developing department.**

***Language and curriculum advisor***  *2019-present*

* Partnered with StemHouse education and worked with Su Pham University’s students and pre-service teachers to build an innovative Math and Science curriculum for Middle school and High school programs.

**Role:**

* Analyzing US Math and Science curriculum and incorporate them into the program
* Assisting Vietnamese teachers in using English in building lessons and conducting lectures.

**OTHER EXTRACURRICULAR ACTIVITIES**

***Leadership Skills***

**Student Council**

***Prefect*** *2018-2019*

* Organized a mini-concert and karaoke for boarding students to share their musical abilities and bond with each other
* Helped organize Orientation Activities at the beginning of the year for new students
* Helped organize Diversity Day and the Vietnamese workshop in the event
* Supervised duties and curfews check-in

***President of the Senior Class*** *2019*

* Organized class meetings and class activities
* Organized the Senior Sleepover

**SKILLS & INTERESTS**

***Language:*** English (Fluent), French(3rd year)

***Music:*** Violin, Electric Guitar, Acoustic Guitar, Bass

***Computer Programming:*** Fluent in most Google Application (Docs, Sheets, Slides), C/ C++, Python, Java, and Front End Web Development( ReactJs, Html, CSS, javascript)