

# ALEXANDER DOUGLAS

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## EDUCATION

### Vanderbilt University

Bachelor of Science in Computer Science and Math

Courses: Program Design and Data Structures, Digital Systems

May 2024

GPA: 4.0

## EXPERIENCE

### Florida State University Department of Scientific Computing | *Research Assistant*

Jun 2019 - Jul 2019

- Assisted Dr. Chen Huang with the development of an open source divide and conquer density functional theory program
- Ran computational quantum mechanics simulations using Florida State University High Performance Computing Cluster

## PROJECTS

### insights ([GitHub](#)) | VandyHacks VII (Hackathon)

Oct 2020

- Named **Capital One Best Financial Hack** (19 submissions), **Vanguard Best Financial Literacy Hack** (15 submissions), and **L3 Harris Best Technology to Give Back** (27 submissions)
- Created back-end data visualization and data analysis algorithms using Python and matplotlib which create clear and concise budgeting information
- Prepared and delivered [presentation and product demo](#)

### ShopWhole ([GitHub](#)) | VandyHacks Summer Edition (Hackathon)

Jul 2020

- Named **Best Beginner Hackers** (20 submissions)
- Created pricing optimization algorithm using Python which enables students to collectively order items at discounted prices from bulk distributors
- Recruited 3 team members, assigned individual roles, directed all major decisions, and presented our project

## TECHNICAL SKILLS

**Programming Languages** | Python (matplotlib, NumPy), C++, Java, SAS, Julia,  $\text{\LaTeX}$

**Technologies** | Git, Alpaca (algorithm trading) API, UNIX

## AWARDS

Mathworks Math Modeling Challenge Finalist (top 6/760) for [paper](#) on electric trucking

Mar 2020

Mathworks Math Modeling Challenge Honorable Mention (top 34/877) for paper on substance abuse

Mar 2019

## EXTRACURRICULAR ACTIVITIES

### Freelance Tutor

Aug 2018 - Present

- Teach several paying clients, focused on calculus, statistics, chemistry, and SAT/ACT prep
- Volunteer tutor for underprivileged elementary students at Boy's and Girls Club

### Science National Honor Society *President*

Aug 2019 – May 2020

- Created and presented a lecture on a survey of modern physics to 40+ high school students
- Coordinated guest speakers who shared how they applied science in their careers

### Model United Nations *Vice President (19-20), Treasurer (17-19)*

Aug 2016 – Apr 2020

- Led, trained, and managed members of top 50 MUN team in North America
- Managed >\$50,000 of receipts and payments annually
- Planned trips to conferences; booked hotels and flights for up to 80 members