David M. Thuman

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RELEVANT COURSEWORK AND TECHNOLOGIES:

CS – Python, Object-Oriented Programming, Java, Data Structures and Functional Programming, OCaml, Operating Systems, C, Embedded Systems, Introduction to Computer Networks, VSCode, Eclipse, Stata, SQL, Django, React, PostgreSQL, Natural Language Processing
AEP - Intro to Nanotechnology and Nanoscience, Engineering Quantum Information Hardware, Electronic Circuits, Ardunio, low-level electronics,
Public Policy - Politics of Public Policy in the United States, Constitutional Politics, Nature Functions and Limits of Law

EDUCATION:

Cornell University, College of Engineering - *Ithaca, New York* ***August '19 to Present***
Major: Bachelor of Science in Engineering Physics and Computer Science. Minor in Public Policy, Class of 2023, GPA: 3.66
Engineering Dean's List: FA2019, SP2020, FA2020, SP2021, SP2022

WORK EXPERIENCE:

Student Software Developer – *Cornell University, Conference and Event Services* **August *'22 to Present***
Worked within the department of Conference and Event Services to develop custom software to progress their business endeavors. Lead a team of another developer to maintain three different code bases. We utilized technologies like Python, React JS, Django, and Postgres to develop web-applications, a legal contract builder, and a custom algorithm to generate a program housing solution.

Student Academic Service Assistant - *Cornell University* ***August '21 to Present***
Part-time teacher assistant for AEP 4200: Intermediate Mathematical Physics. I hold office hours, write up and grade weekly problem sets, and meet weekly with my other TAs to assess the state of the students' learning.

Undergraduate Researcher - *McMahon Labs at Cornell University* ***August '20 to December '20***
Research with a group of three other undergraduates' noise resilient quantum circuits and prepared a weekly update slide on research progress. Created algorithm to search for the lowest energy-states of a frustrated Hamiltonian system. Tested higher lattice structures for noise resilient properties represented in Liu's Variational Quantum Eigensolver paper.

SPECIAL PROJECTS:

Congressional Roll-Call Predictor - *Data Collection and Processing, Machine Learning* ***August '22 to Present***
Using a neural network, I built a predictive model for roll-call votes in the Senate. Using Python and TensorFlow, I was able to web-scrape data from congress.gov and senate.gov, clean and process the data, and then train a neural network to predict a specific senator's roll-call vote on a given piece of legislation, using word features from the document.

Weekly Life Tracker – *Data Collection and Processing, Data Visualization* **August *'21 to Present***
Beginning Fall 2021, I tracked my actions in 15-minute blocks. Using Python, I processed and analyzed the data, calculating how I spent my time being a student at Cornell University. Classifications were Work, Life, Food, and Sleep, Further breakdown were used to breakup courses, time with friends, or general fun. Matplotlib Python library was used to visualize the breakdown of my life, semester by semester.

EXTRA CURRICULAR:

President of Pi Kappa Alpha Fraternity at Cornell University ***August '22 to Present***
Lead an Executive Board of 11 members through teamwork, leadership, and delegation. Our organization consists of over 65 members, with a budget of over 200,000 dollars. Direct the Executive Board to represent and increase our fraternity's philanthropy, community service, and social efforts.

Web Scraping Bot ***January '20 to June '20***
Used Python to parse HTML and Chromium to control the website directly. Created a bot that uses Chromium to directly interface with the browser to turn names into online usernames. Page requested the online profiles of users, scraping and cleaning the HTML with Python's Beautiful Soup library. Once all the large dataset is cleaned, process the data using Python's Pandas library to visualize and graph.

Cornell Integration Bee ***August '19 to June 20***
Planned a school wide integration bee with over 100 participants and cash prizes of $100, $50, and $25 for First, Second, and Third. Collaborated with faculty and organized a group of volunteers to help promote the event and guide students through the event process. Created over 100 unique and challenging integrals that would be used to test students' ability.