

Alex M. Cooper Jr.

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Education

West Chester University of Pennsylvania

B.S. in Computer Science

West Chester, Pennsylvania

Expected Graduation: Spring 2026

- **Related Coursework:** Computer Science III, Calculus I, Discrete Mathematics, Statistics, Data Structures and Algorithms, Computer Security, Computer Systems
- Participated in the 7th and 10th Annual West Chester Programming Contest
- Spring 2024 Dean's List, Fall 2024 Dean's List

University of Delaware

Newark, Delaware

August 2022-May 2023

- **GPA:** 3.45/4.00
- Spring 2023 Dean's List

Projects/STEM Experience

Statistics Tutor

West Chester, Pennsylvania

Peer Tutor

August 2024-Current

- Assisted students in either one on one or small group (less than 4) settings to work through topics from the Statistics I course at the West Chester University Learning Assistance and Resource Center (LARC)
- Covered topics including probability, confidence intervals, tests of hypothesis, and regression
- Reviewed material and developed individualized plans to ensure each student was able learn effectively and communicated between faculty, students, and peers to ensure continuity.
- Participated in training with the College Reading and Learning Association to be certified.

Thermostat Project

Lancaster, Pennsylvania

July 2024

- Programmed an Arduino UNO to take in input from a thermistor and display the temperature onto an Liquid Crystal Display(LCD), change a Tri-color LED to a corresponding color based on range, and start a DC motor depending on the registered temperature.
- Utilized the Arduino IDE to write code for communication between the arduino and components.
- Designed the circuit and implemented the appropriate techniques and components to regulate current outputs for protection of all components.

Stock Price Analyzer

West Chester, Pennsylvania

Solo Developer

December 2023-February 2024

- Built a program using Python that can read comma separated value (CSV) files and uses the info to visualize the information provided and attempts to predict future prices using linear regression.
- Utilized the Pandas library to create DataFrames which store the values to be visualized in graphs and the terminal, these DataFrames are then manipulated to add more detail and to be accessed for different purposes.
- Used the Matplotlib library to create plots and subplots to help visualize the information into a variety of graphs.

- Applied the scikit-learn (sklearn) library to run a linear regression model based on training and testing sets to determine the information's trend.

Weather Website

West Chester, Pennsylvania

Solo Developer

January 2024

- Built a website that can tell the current temperature and weather for any city in the United States.
- Used HTML to build the user interface which has a designated area to enter a city name and used CSS to style the site.
- Utilized my skills and knowledge to integrate the fetching of information using an application programming interface (API) key.
- Used JavaScript to write the functions that locate the coordinates of a given city and then use those coordinates to determine the weather, updating the HTML to display a description, picture, and temperature converted to Fahrenheit.
- Implemented throwing exceptions to prevent errors when a city is misspelled or can not be located.

Encryption/Decryption Program

Newark, Delaware

Solo Developer

February 2023-April 2023

- Built a program using Python which can encrypt messages providing a unique hashkey for each combination of characters, the program can also decrypt messages made using said cypher and confirms the integrity of the messages by verifying the hashkey.
- Integrated my knowledge of the ASCII table for character rotation and manipulation functions.
- Supports user inputs and can be customized to support variations of haskeys in different bases.

Technical Skills

Languages: Python, Java, HTML, JavaScript, CSS, C, C++

Libraries: Pandas, Numpy, Matplotlib, scikit-learn, Java.util

Environments/Tools: Thonny, BlockPy, jGRASP, Visual Studio Code, GitHub, Arduino IDE

Non-Technical Work Experience

Valvoline Instant Oil Change

Lancaster, Pennsylvania

Senior Technician
2024

May 2022-August

- Supervised a team of employees to ensure speed of service, quality work, and safety.
- Interacted with suppliers to ensure supplies and resources were properly managed and available.
- Used a variety of new technologies, and industry standards to perform a number of roles during vehicle servicing.
- Kept track of and issued disciplinary files and ensured accountability for team members.

Resident Assistant Internship and Leadership Exploration(RAILE)

Newark, Delaware

Intern/Mentee

February 2023-May 2023

- Attended a variety of professional workshops that addressed issues commonly seen in work places and resident halls.
- Received on-site training and met with a mentor to build and develop characteristics of a leader.
- Helped coordinate and host events to engage with members of the community.

