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EDUCATION

- **Allegheny College** Meadville, PA
B.S. Mathematics (GPA: 3.55, Honors: Cum Laude) Aug 2019 - May 2023
 - **Selected Coursework:** Linear Algebra, Foundations of Mathematics, Vector Calculus and Variables, Probability/Statistic Inferences I, Probability/Statistic Inferences II, Optimization and Approximation, Algebraic Structures I, Introduction to Real Analysis, Complex Variables

CERTIFICATES

- **Google Data Analytics Professional Certificate:** Developed an advanced understanding and proficiency of platforms for effective data analyses, including spreadsheets, SQL, R, and Tableau.
- **Supervised Machine Learning: Regression and Classification:** Learned to build machine learning models in Python using popular libraries such as NumPy and Scikit-Learn.
- **Advanced Learning Algorithms:** Explored decision trees, tree ensemble methods, and built and trained a neural network with TensorFlow for multi-class classification.

INTERNSHIPS

- **Allegheny College Mathematics Department** Meadville, PA
Undergraduate Researcher May 2022 - Jul 2022
 - Studied mathematics under the supervision of Professor Caryn Werner.
 - Explored systems of algebraic curves in the projective plane, a topic in algebraic geometry.
 - Solved equations and visualized graphs using Wolfram Mathematica and the Wolfram Language.
 - Presented my work to students and faculty of Allegheny College, as part of the ACRoSS seminar series.

SOFTWARE PROJECTS

- **Personal website:** www.bcardona.com (for additional information and projects)
- **Fertility Rates Case Study** ([Tableau](#), [GitHub](#)):
 - Conducted a case study to determine the Average Total Fertility Rate by Geographic Region from 1960 to 2021.
 - Concluded that a significant decline in average total fertility rates has been observed worldwide in nearly every country.
 - Utilized: R, Tableau, Excel, Git, GitHub
- **Deep Work Tracker** ([GitHub](#)):
 - Developed a Python project to track and record focused work activities, known as “deep work”, to improve my productivity.
 - Implemented a CSV file-based system for logging daily accomplishments and a Python script for generating visualizations and a daily/monthly summary.
 - Utilized: Python, Pandas, Matplotlib, Seaborn, Git, GitHub
- **Pathfinding Visualizer** ([Website](#), [GitHub](#)):
 - Developed an immersive JavaScript web application to visualize various search algorithms.
 - Implemented Depth-First Search, Breadth-First Search, A* Search, Greedy Best-First Search, and Dijkstra’s algorithm.
 - Utilized: JavaScript, HTML, CSS, Git, GitHub
- **Sorting Visualizer** ([Website](#), [GitHub](#)):
 - Built an interactive JavaScript web application to visualize a range of sorting algorithms.
 - Implemented Bubble Sort, Heap Sort, Insertion Sort, Quick Sort, and Selection Sort.
 - Utilized: JavaScript, HTML, CSS, Git, GitHub

TECHNICAL SKILLS

- **Proficient:** Python, R, SQL, Git, GitHub, Tableau, RStudio, Jupyter, Microsoft Excel, Google Sheets, Wolfram Mathematica, Wolfram Language, LaTeX, HTML5, CSS3
- **Familiar:** JavaScript (ES6), ReactJS, C++

SOFT SKILLS

- **Strong:** Communication, Collaboration, Attention to detail, Perseverance, Adaptability