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Bradley M. Cardona

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Education

- **Allegheny College** — Meadville, PA
  B.S. Mathematics (GPA: 3.55) — *Aug 2019 - May 2023*
  - **Honors**: Cum Laude
  - **Selected Coursework**: Linear Algebra, Introduction to Real Analysis, Vector Calculus and Variables, Probability/Statistic Inferences I, Probability/Statistic Inferences II, Optimization and Approximation, 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 study to explore the trends of average total fertility rates across large geographical regions from 1960 to 2021.
  - Concluded that a significant decline in average total fertility rates has been observed 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, Tableau, Git, GitHub, 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