

209 North River St.  
Athens, PA 18810  
www.github.com/bmcardona

# Bradley M. Cardona

(845) 522-2002  
bcardona300@gmail.com  
www.bcardona.com

## 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 (2023):** Developed an advanced understanding and proficiency of platforms for effective data analyses, including spreadsheets, SQL, R, and Tableau.
- **Machine Learning Specialization (2023):** Studied supervised learning, unsupervised learning, recommender systems, and reinforcement learning; gained practical skills to apply machine learning techniques.
- **Deep Learning:**
  - **Neural Networks and Deep Learning (2023)**
  - **Structuring Machine Learning Projects (2023)**
  - **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization (2023)**
  - **Convolutional Neural Networks (2023)**

## 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](http://www.bcardona.com) (for additional information and projects)
- **Overpopulation Case Study (Paper, Tableau, GitHub):**
  - Conducted a study to explore the trends of average total fertility rates across large geographical regions from 1960 to 2021.
  - Concluded that most countries will need to address an underpopulation problem.
  - 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

## SKILLS

---

- **Languages:** Python, R, SQL, JavaScript, LaTeX, HTML, CSS
- **Libraries/Frameworks:** TensorFlow, NumPy, Matplotlib, Microsoft Excel, GitHub, Git