Cullen Anderson

646-673-6948 | cyanderson@umass.edu | linkedin.com/in/cullenyanderson | github.com/cullena20 | cullenanderson.com

Education

University of Massachusetts Amherst — Amherst, MA
BS in Computer Science, BS in Pure Math — *Expected: May 2025*

- GPA: 3.826
- Relevant Coursework: Ongoing - Machine Learning (Python), Programming Methodology (JavaScript), Algorithms, Topology, Analysis I, Completed - Data Structures (Java), Theory Of Computation, Programming In C, Object Oriented Programming (Python), Statistics For CS, Abstract Algebra I, Calc 3, Linear Algebra

Stuyvesant High School — NY, NY
Stuyvesant Endorsed Diploma — *September 2018 – June 2022*

- SAT: 1550, AP Calculus BC: 5, AP Physics C - Mechanics: 5, AP Physics C - E&M: 5, AP Physics 1: 5, AP Chemistry: 5, AP World History: 5, AP US Gov & Pol: 5
- Activities: President of Machine Learning Club, Member Of Competitive Computing Club

Experience

Researcher — July 2023 – Present
University Of Utah — *Salt Lake City, UT*

- Spearheading research on computationally efficient and practical robust statistics under the guidance of Professor Jeff Phillips and PhD candidate Meysam Alishahi. Actively working towards publishing a paper.
- Independently taking the lead on project management and achievement of results, bypassing typical undergraduate expectations.
- Proficiently analyzing research papers, implementing experiments in Python, devising original algorithmic improvements, experimentally verifying and rigorously proving results.
- Originally accepted as a summer REU student where I worked on campus for ten weeks and was funded by a NSF grant.

Research Assistant — January 2023 – May 2023
Initiative For Digital Public Infrastructure — *Amherst, MA*

- Led the development of a deduplication algorithm for Gobo, a social media aggregator combining Reddit, Twitter, and Mastodon into a unified platform with user-controlled algorithms. Worked under the guidance of Professor Ethan Zuckerman and PhD candidate Spencer Lane.
- Utilized Python and social media APIs to create a comprehensive dataset from various social media posts.
- Designed and implemented complex duplicate detection rules in Python, ensuring accuracy and minimizing redundancy.
- Conducted extensive testing and validation of the algorithm.

Intern — March 2021 – February 2022
EPIC, Columbia University — *NY, NY*

- Analyzed interview data of Nobel Prize winning scientists and Olympic athletes in a small team. Leveraged data insights to develop scripts tailored for research purposes.
- Worked collaboratively to write and edit an intro film to EPIC's research. Worked under the supervision of founding director Dr. Xiaodong Lin and assistant director Dr. Daoquan Li.

Film Fellow — June 2021 – Jan. 2022
Ghetto Film School — *NY, NY*

- Demonstrated exceptional leadership by overseeing a film crew and successfully casting and directing actors to independently write, direct, and edit a film.
- Distinguished as one of 30 participants in a competitive, tuition-free film program. Successfully managed a rigorous schedule consisting of daily meetings during the summer and weekly meetings during the school year.

Projects

Reddit Sentiment Analysis | *Python, Flask, Keras, Reddit API, HTML/CSS*

- Implemented a ML sentiment analysis model on a web application using Flask. The website allows users to perform sentiment analysis on Reddit Subreddits based on popular headlines.

Digit Recognizer Website | *Python, TensorFlow, NumPy, Pillow, Flask, JavaScript, HTML/CSS*

- Implemented neural network from scratch in NumPy and convolutional neural network using TensorFlow.
- Built image preprocessing pipeline using Pillow, allowing digits drawn on or submitted to the website to be identified.
- Built full-stack web interface using Flask, JavaScript, and HTML/CSS.

Velocity Selector Game | *JavaScript, HTML/CSS*

- Developed an online physics simulator game to teach students about the concepts of projectile motion, electric fields, and magnetic fields. The game consists of adjusting parameters to shoot a ball through an electric and magnetic field.

Stanford Machine Learning Coursera | *Python, Numpy, Tensorflow, Keras, Pandas, Matplotlib*

- Completed Coursera Stanford Machine Learning Course where I implemented several ML algorithms in Python. These algorithms include both supervised and unsupervised techniques such as: Neural Networks, Decision Trees, and K-Means Clustering.