

# Andrew Gusty

(719)-500-1315 | [angu8719@colorado.edu](mailto:angu8719@colorado.edu) | [linkedin.com/in/andrew-gusty](https://www.linkedin.com/in/andrew-gusty) | [jgandrew2022.github.io/](https://jgandrew2022.github.io/)

## EDUCATION

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### University of Colorado

Boulder, CO

*Bachelor of Science in Computer Science, Bachelor of Science in Applied Mathematics*  
Aug. 2022 – May 2026

- CU Esteemed Scholar Award Recipient
- Engineering Honors Program Member

GPA: 3.870

## EXPERIENCE

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### Undergraduate Researcher

June 2024 – Present

*University of Colorado Department of Electrical Engineering*

- Works under Dr. Emily Jensen to study distributed control of systems with wave-like dynamics, such as peristaltic crawlers, radar signals, and power networks
- Summer research project concerned deriving optimal configuration for a peristaltic crawler (Final Program Presentation: [jgandrew2022.github.io/projects](https://jgandrew2022.github.io/projects))
- Math topics used include control theory, dynamical systems, analysis of PDEs, and numeric computer models

### Assistant System Administrator

May. 2022 – Present

*CU Office of Information Technology*

- Works with a team of system administrators to oversee and manage the University of Colorado's Linux-based server system
- Responsibilities include developing software for automation of tasks, maintaining programs and operating systems, and deploying new hosts
- Team utilizes Kanban project management methodology, stand-up meetings, and follows strict quality control and documentation standards

### Perception Team Software Developer

August 2022 – May 2023

*University of Colorado Robotics Club*

- Responsible for configuring remote graphical interface to data storage server for image labeling, image labeling system, selection of image recognition model, and training of model
- Team utilized Agile project management methodologies

## PROJECTS

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### COMAP - Mathematical Contest in Modeling | *Python*

February 2024

- Internationally recognized undergraduate applied math competition that takes place over 4 days.
- Worked in a team of three to derive and implement a mathematical model for momentum in sports.
- Paper can be found at: [jgandrew2022.github.io/projects](https://jgandrew2022.github.io/projects)

### Mean-Variance Portfolio Optimization Paper | *Python, Linear Algebra*

- Final project paper for Matrix Methods course that tests practical improvements to the classical model for Mean-Variance Portfolio Optimization.
- Paper can be found at: [jgandrew2022.github.io/projects](https://jgandrew2022.github.io/projects)

### Full-Stack Development of Dog Adoption Website | *HTML/JS/CSS, NodeJS, PostgreSQL, MochaJS, Docker*

- Final project for Software Development Methods and Tools at CU
- Worked in a team of 4 to create the front and back end of a full web application
- Link to project code: [github.com/SamDub21/CSCI3308\\_DogProject](https://github.com/SamDub21/CSCI3308_DogProject)

## TECHNICAL SKILLS

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**Programming Languages:** R, Python, C/C++, HTML/CSS/JavaScript, LaTeX, SQL

**Tools and Platforms:** Git, Docker, Linux/Unix, Jupyter

**Mathematics Education:** Real Analysis, Complex Analysis, Matrix Methods, Differential Equations, Calculus I-III, Markov Processes, and Applied Probability

**Computer Science Education:** Theory of Computation, Cybersecurity, Programming Languages, Computer Systems, Software Development, Intro to AI, Algorithms, Discrete Structures, and Data Structures