Andrew Gusty

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Education

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 GPA: 3.870
- Engineering Honors Program Member

Experience

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
- 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

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

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

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

Technical Skills

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