

Jonathan Coulter

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EDUCATION

Bachelor of Science in Computer Science, *University of Pittsburgh*

April 2026

Mathematics Minor, Economics Minor

- **GPA:** 4.00/4.00
- **Relevant Coursework:** Data Structures & Algorithms, Web Development, Algorithm Design, Software Quality Assurance, Operating Systems, Systems Software, Computer Organization, Linear Algebra, Discrete Math

TECHNICAL SKILLS

Languages: Java, Python, C, C++, JavaScript, HTML/CSS, Rust, SQL, Swift

Frameworks: React, Flask, Node.js, Next.js, jQuery, JUnit

Libraries: pandas, Bootstrap, Material UI, OpenCV, SQLAlchemy, AutoGen, Matplotlib

Tools: Docker, Firebase, Git, Google Cloud Platform, Linux, Excel, Jupyter

EXPERIENCE

Software Engineer Intern – Carnegie Mellon University

May 2024 – Present

Pittsburgh, PA

- Developed the UI of Sway, a chatroom web app aimed at depolarizing conversations through AI moderation, using Bootstrap and jQuery to transform it into a modern, responsive platform
- Engineered an administrative dashboard using Flask WebSockets to allow real-time monitoring of study metrics
- Overhauled Sway to integrate a real-time Firebase database, allowing for modular configuration upon deployment
- Presented Sway at CMU's Open Forum for Artificial Intelligence, where I connected with leading researchers in the field of AI to discuss the social and technical implications of these emerging technologies

Undergraduate Teaching Assistant & Peer Tutor – University of Pittsburgh

Jan 2024 – Present

Pittsburgh, PA

- Led 25 students through recitation discussions and exercises to clarify Data Structures & Algorithms concepts
- Hosted office hours available to 150 students where I found unique explanations that cater to diverse learning styles, enhancing their grasp of programming assignments, practice exercises, and problem-solving techniques

Data Science Research Fellow – Center for Analytical Approaches to Social Innovation

Aug 2023 – Apr 2024

Pittsburgh, PA

- Leveraged Python, pandas, and Excel to gather and process unstructured data on the police-citizen complaint process from Allegheny County municipalities to create structured datasets for analysis
- Integrated this information into an interactive storymap, which now empowers the community by making the most recent police accountability data more accessible and actionable for residents of Allegheny County

Sales Associate – Old Navy

Jul 2021 – Dec 2023

Monroeville, PA

- Maintained a 2.5% credit card enrollment rate by effectively communicating with customers about the program benefits
- Managed multiple tasks, including restocking, cashiering, and assisting customers during busy periods

PROJECTS

Echo – CMU TartanHacks

Feb 2024

Pittsburgh, PA

- Developed a full-stack Flask web app integrated with the Spotify API to generate playlists of 20+ recommendations for the user based on their current mood
- Detected and pre-processed user facial images in OpenCV and utilized a DeepFace model for mood analysis
- Created a RESTful API with Flask to handle user authentication, data processing, and interaction with APIs
- Trained an ML model with Sklearn and preprocessed 200+ songs with Pandas and NumPy to fine-tune recommendations

Side Quest – SheInnovates Hackathon

Mar 2023

Pittsburgh, PA

- Created an iOS app using Swift that assigns users a unique daily side quest in a category of their choosing that they must complete that day to promote adventure and spontaneity
- Developed profile and calendar components using SwiftUI to incorporate social networking functionality

Blink Buddy – Pitt CSC Hacks Award Winner

Oct 2022

Pittsburgh, PA

- Developed a Python application that utilizes real-time computer vision using OpenCV to detect and display information regarding user's blinking frequency and habits to improving ocular health
- Stored and tracked user's blinking analytics over time to be compared across work sessions