Miles Newland

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Education

University of Pittsburgh

School of Computing and Information — *Pittsburgh, PA*

Bachelor of Science in Computer Science — *Class of 2025*

Major: Computer Science | Minor: Physics

Experience

VineAi — *Pittsburgh, PA*

Frontend Developer — *May 2024-Present*

- Designed and continue to improve and maintain entire user interface for first version of application
- Supports back-end development including implementation of Natural Language Processing and Large Language Models
- Conducts web scraping to gather data from various websites

University of Pittsburgh — *Pittsburgh, PA*

Undergraduate Teaching Assistant — *Aug 2023-Present*

Assists in the following courses: Algorithm and Data Structures, Intro to Computer Programming, and Intermediate Programming

- Directs engaging labs and recitations, honing not only technical skills but also fostering public speaking experience
- Utilizes strong communication skills for clear one-on-one interactions and group presentations
- Maintains regular office hours, offering dedicated support and addressing student questions

Key Skills

Programming Languages:

- C, Rust, Java, Python (including Flask, Pandas, NumPy, and Beautiful Soup), JavaScript (including React), HTML, CSS, and SQL (including PostgreSQL and MySQL),

Technical Qualifications:

- Version Control Systems (Git and GitHub): Adept at managing code repositories and collaborating on projects.
- Web Design: Expertise in creating user-friendly interfaces with HTML, CSS, and JavaScript frameworks, ensuring optimal device performance.
- Software Engineering: Hands-on experience in project planning, system design, and full lifecycle development, from initial specifications to final implementation and maintenance.
- Software Quality Assurance: Knowledgeable in software testing theory as well as practical skills in writing tests.

Projects

Auto-Complete Engine

- Implemented the back-end of an auto-complete engine, utilizing a Trie structure to recommend words based on user history
- Showcasing skills in data structure implementation, algorithmic design, and Java

Color Quantizer

- Developed a Java program for color quantization using k-means clustering
- Applied the k-means algorithm to analyze and quantize the color palette of .bmp files
- Showcasing skills in image processing, algorithmic clustering, and Java

Wealth and Income Inequality Analysis

- Executed a comprehensive analysis of wealth and income inequality in the Pittsburgh area using Pandas
- Leveraged data manipulation and analysis techniques to provide insights into socioeconomic disparities
- Showcasing proficiency in data science and Python

Fast Food Order System

- Developed a Flask server API simulating a fast-food order system
- On the customer side, implemented features allowing users to select items from an on-screen menu, view a real-time order summary, input their name into the order, and receive a final order summary page
- On the kitchen side, created a screen displaying current unprocessed orders and a button for order deletion upon delivery
- Showcasing skills in: HTML, CSS, JavaScript, DOM, HTTP requests, Python, and Flask (routes, templates, models)

Awards and Certifications

- IBM: Introduction to Artificial Intelligence (AI)
- IBM: Machine Learning with Python
- University of Pittsburgh Dean's List