Kyle Arnold

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Professional Summary

Computer Science and Mathematics student with a robust background in software development, excelling in languages such as Java, C++, and Python. Eager to leverage skills in algorithm design, object oriented design, and agile methodologies to create impactful software solutions and enhance technical skills.

Education

Colorado State University — Fort Collins, CO

Bachelor of Science, Computer Science, GPA 4.0 — *2023 – Present*

Bachelor of Science, Computational Mathematics, GPA 4.0 — *2023 – Present*

University of Colorado Boulder — Boulder, CO

2022 – 2023

Projects

Web Application for Optimized Location-Based Tours | *Java, SQL, Git* — Aug. 2024 – Dec. 2024

- Collaborated in a team environment to develop a responsive web application that enables users to plan customized tours for various points of interest.
- Implemented Search and Nearby Finder with connection to a large relational database, Great-Circle Distance Calculation, and Tour Optimization through nearest-neighbor.
- Visualized GitHub data to show collaboration.
- Led and participated in scrums twice a week
- Delivered a project presentation to simulated shareholders.

Stochastic Gradient Descent for Neural Network Optimization | *Python, Matplotlib* — Nov 2024 – Dec 2024

- Developed and implemented a Stochastic Gradient Descent algorithm to optimize weights and biases in neural networks.
- Supported high-dimensional datasets with up to 1,000 features, enabling high levels of scalability.
- Integrated real-time visualization tools using Matplotlib to display loss convergence and gradient updates.
- Presented project findings in a concise presentation to peers, communicating key results and analysis.

Song Rating System | *Java, Git* — Jan 2024 – May 2024

- Developed and designed the back-end structure for a song rating system that analyzes user preferences and predicts ratings for unrated songs.
- Implemented a clustering algorithm to group users based on similar music tastes and developed predictions for ratings based on clusters.

Technical Skills

Software Development: Agile Methodologies, Collaborative Development, Object Oriented Design
Languages: Java, Python, SQL, C, C++, HTML/CSS, R
Frameworks: JUnit, REST API
Developer Tools: Git, VS Code, Visual Studio, MariaDB

Leadership & Achievements

Deans List
Eagle Scout
Life Group Leader: Lead a small group of five members in weekly meetings, providing mentoring and guidance in achieving personal and spiritual goals.
Country Swing Instructor: Lead instructional sessions for over 200 members in CSU's second largest social club, fostering a welcoming and inclusive environment.