Jed Woods

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Education

Brigham Young University

Bachelor of Science in Applied and Computational Mathematics (ACME) and Computer Science (GPA: 3.86 / 4.00) *Provo, UT*

- **Relevant Coursework:** Intro to CS (Python), Data Structures and Algorithms (C++), Machine Learning Algorithms (Python), Discrete Structures and Algorithms (C++), Linear and Computational Algebra (Python), Differential Equations, Advanced Software Construction (Java), Fundamentals of Mathematics

Technical Skills

Languages: Python (Numpy, Pandas, Seaborn, PyTorch, Flask, Huggingface, Matplotlib), C++, Javascript, Html, Java
Technologies: Snowflake, Git, Docker, Tableau,
Concepts: Object Oriented Programming, Data Structures, Conditional Logic, Artificial Intelligence, Machine Learning, Neural Networks, Calculus, Linear Algebra, Differential Equations

Experience

Research Assistant to Dr. Nancy Fulda Jan 2024 – Present

BYU - DRAGN Lab *Provo, UT*

- Developed an algorithm in Python (PyTorch) to simulate exhaustion/boredom in the the nodes of large language models
- Managed the digital asset pipeline and overhauled asset naming conventions which increased training data by 3 times

Business Intelligence Intern May 2023 – Sep 2023

PCF Insurance *Lehi, UT*

- Produced a Python script to verify metadata for 1000+ commission contracts, directly impacting data collection and management level decision making
- Refactored legacy code in Python to update the data pipeline, contributing to the readability and maintainability of the codebase

Head Teaching Assistant - Intro to Computer Science (Python) Sep 2023 – Present

BYU - CS111 *Provo, UT*

- Taught 10+ lab sections of 20+ students, covering topics such as object oriented programming, data structures, and recursion
- Assisted over 350 students in debugging and refactoring code, leading to an increased understanding of Python and programming concepts

Projects

BYU AIA Hackathon | *Keras, tensorflow log, CNN, Matplotlib, Python*

- Trained a convolutional neural network to classify images of Coca-Cola products for startup company, achieving 85% accuracy
- Normalized and cleaned the data, reducing noise and improving model performance by 10%
- Implemented the tensorflow log function to track model performance and visualize results, leading to a 20% increase in model accuracy

Data Automation | *Pandas, CSV, Python, Canvas*

- Developed a Python script to automate the import and unification of test results for students in BYU CS111 course, saving 50+ hours of manual grade imports
- Utilized Pandas to clean and merge CSV files, creating a single source of truth for student grades with 100% accuracy

New Testament Class Project | *Python, Flask, HTML, getrequests, openai*

- Built an interactive HTML application for students to ask questions about New Testament authors, using GPT-3 to generate answers
- Created a Flask backend to handle user input and communicate with the OpenAI API, allowing for real-time responses