Jed Woods

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Education

Brigham Young University Expected May 2026

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

- **Relevant Coursework:** Data Structures and Algorithms (C++), Machine Learning Algorithms (Python), Discrete Structures and Algorithms (C++), Linear Algebra w/Computational Applications (Python), Multivariable Calculus, Advanced Software Construction (Java),

Experience

BYU - DRAGN Lab Jan 2024 – Present

Research Assistant *Provo, UT*

- Developed an algorithm with Dr. Fulda 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 3x.

BYU - PCCL Lab Feb 2023 – Sep 2023

Research Assistant *Provo, UT*

- Parsed and tokenized the RedPajama dataset using Python under Dr. Wingate's supervision.
- Performed data analysis on previous research, highlighting trends in demographical data

PCF Insurance May 2023 – Sep 2023

Business Intelligence Intern *Lehi, UT*

- Produced a 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 ETF process, contributing to the readbility and maintainability of the codebase.

BYU - CS111 Sep 2023 – Present

Head Teaching Assistant *Provo, UT*

- Taught 10+ lab sections of 20+ students, covering topics such as OOP, 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 coke 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.

Testing import automation | *Pandas, CSV, Python, Cavas*

- 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.

Technical Skills

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