

# Jed Woods

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## Education

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### Bachelor of Science in Applied and Computational Mathematics (ACME) and Computer Science

Brigham Young University (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

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**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

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### 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

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### 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 training 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 student test results 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