

Heagen Bell

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Education

University of Kansas

Bachelor of Science, Computer Science

Relevant Coursework: Programming 1, Calculus 2

Lawrence, KS

2024-2028

Experience

University of Kansas Center for Research and Fellowships

Research Assistant

Lawrence, KS

August 2024 - Present

- Research Assistant to Dr. Hongyang Sun who specializes in high-performance computing (HPC), cloud/edge computing, and computational data science
- Designed and animated visualizations of the inner workings of HPC algorithms using Manim in Python for use as course material impacting nearly 100 students a semester and incorporated into published research by the department
- Planned and organized research projects for published work, created timelines, and tracked progress to ensure steady and successful progression

Chick-fil-A

Seasonal Team Member and Trainer

Wichita, KS

May 2023 - August 2024

- Collaborated and communicated effectively with new and current team members, and leaders to ensure peak-hour demands, customer satisfaction, and a productive environment are achieved

Projects

Carbon Footprint ETL: Python, JSON

October 2024 - Current

- Architected an API-driven Python-based ETL utilizing Carbon Interface API, AWS, and Pandas library to script, load, and visualize carbon emissions data based on the user
- Integrate data scripting from CSV files to POST requests to fetch carbon data from API in raw JSON data
- Store raw data to AWS S3 for future automation, visualizations, and scalability

Visualizing HPC and Data Science Algorithms: Python

August 2024 - Current

- Developed extendable and animated visualizations of high-performance computing (HPC) algorithms using Python, NumPy library, and Manim library to grant greater access to understanding complex mathematical concepts for Dr. Sun's students
- Illustrated custom animations, utilizing the Manim library, for complex matrix operations such as multiplication and checkerboard distribution to improve comprehension of data distribution and computational operation
- Engineered dynamic Python scripts to generate visualizations catered to the user request enabling an interactive visualization experience

Personal Portfolio Website: Python, HTML, CSS, JS

August 2024 - September 2024

- Integrated responsive front-end development utilizing Bootstrap to ensure a positive user experience across all devices with Chrome emulation
- Implemented structured back-end development utilizing Flask to include form handling and a hierarchical architecture creating an interactive user experience

Technical Skills

Languages: Python, JSON, Java, HTML, CSS, JS, SQL

IDE/Tools: VS Code, Git, IntelliJ, Gradle, Forge, AWS

Databases: mySQL

Libraries: SymPy, NumPy, Kivy, Manim, Pandas