Beckett Lee-Messer

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TECHNICAL SKILLS

Python - Highly proficient; Pandas, Numpy, Pytorch, ML
Java - Highly proficient; Object-Oriented App Design
Golang - Highly proficient; Backend Web Development, Databases, Networking
JavaScript - Proficient; Svelte, React, Web Development
C++ - Proficient; CUDA, OpenGL, Graphics Programming
Zig - Proficient; Algorithms, Data Structures
Also proficient with: **Linux CLI & DevOps, GitHub, Jupyter**

EDUCATION

Vassar College - Poughkeepsie, NY Expected Graduation: 5/2028

- Intended double major in Physics & Computer Science
- First term unweighted GPA: 3.93; STEM/Major GPA: 4.0
- Relevant coursework: Object-Oriented Programming, Mechanics, Multivariable Calculus
- Planned coursework: Linear Algebra, Differential Equations, Algorithms, Electricity & Magnetism

The Nueva School - San Mateo, CA - 8/2020 to 6/2024

- GPA: 3.95 unweighted, SAT: 1590
- Relevant elective coursework: Programming, Algorithms, Software Engineering, Full Stack Web Development, Modern Physics, Advanced Mechanics, Chemical Engineering

WORK EXPERIENCE

Project Serendib, Startup Company, Web Development Position - *2024, Ongoing*

- Created a survey website from scratch based on company criteria and goals. Iterated on the design during regular meetings with the owners. Once refined, deployed the website to Amazon Web Services. Currently overseeing initial user testing before final handoff.

Christopher Ré Lab, Stanford University, Machine Learning Research Internship - *Summer 2023*

- Collaborated with a grad student. Used Pytorch to design and test ways to add multimodal support to a project focused on performing efficient binary classification.
- Created Large Language Model (LLM) integrations for Google Calendar and Google Search as part of a project exploring LLM use on the desktop.

Easton Financial, Paid Software Engineering Internship - *Summer 2022*

- Created multiple scripts in Python which interface with a vehicle insurance API and scrape vehicle information from the web. Scripts helped build a database of vehicle data for financial analysis. With another intern, used Python to develop a Loan Origination System dashboard to the employer's specifications.

PROJECT HIGHLIGHTS

Computer Science Curriculum Design - *Spring 2024, Ongoing*

- Redesigned the curriculum for an introductory programming course using student & teacher feedback.
- Currently creating detailed course materials; once complete, they will be utilized in class.

Machine Learning Image Compression - *Spring 2024*

- Learned about autoencoders and used them to create a two-way lossy image compression tool that reduces image storage size to 4% of original. Wrote a corresponding report.

Path Tracing - *2023*

- Used Golang to implement and optimize a multithreaded path tracing algorithm to render photorealistic images. Later rewrote the project using C++ and CUDA to render using the GPU.

SEL Habit Tracker - *Fall 2022*

- With a partner, developed a website from scratch to the specifications of a Nueva SEL teacher to help students record and visualize their counterproductive habits. Iterated on the project design multiple times based on conversations with and feedback from the client.