

Cardell Taylor

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EDUCATION

Grand Valley State University

Bachelor of Science in Computer Science, Minor in Mathematics

August 2022 - December 2025

Allendale, MI

EXPERIENCE

Research Assistant

Grand Valley State University

August 2023 – Present

Allendale MI

- Combining modern machine learning techniques solve problems in Bioinformatics
- Designing models to process and generate genomics data using variational autoencoder and GAN frameworks
- Fast paced team environment prioritizing rapid iteration

PROJECTS

Arithmetic Compiler | C++

November 2024 - December 2024

- Engineered a compiler for arithmetic expressions from scratch using C++
- Implements and transforms several data structures; such the parse tree, abstract syntax and three address code
- Applied graph-coloring register allocation for usage in code generation.
- Compiles down to x86.64 assembly

MNIST Michi-GAN | Python, Pytorch

August 2024

- Exploration of the MichiGAN framework for generating disentangled representations of the MNIST dataset, as detailed in the paper *MichiGAN: sampling from disentangled representations of single-cell data using generative adversarial networks*
- Evaluated performance using common metrics like Fréchet Inception Distance (FID) and Inception Score

Autoencoder | C++, OpenMP, Eigen

Sep 2023 - Nov 2023

- Implemented a neural network from scratch that can be trained to compress and reconstruct image data
- Implements ADAM, a modern optimization technique reduce model convergence time
- Used multithreading with OpenMP to boost performance
- Later moved to python to test adversarial feedback techniques

EXTRACURRICULAR

Research Coordinator

August 2024

GVSU Computing Club

- Keeping members informed on different research opportunities offered to students
- Connecting students interested in research with faculty mentors

GRANTS/AWARDS

Student Summer Scholar Grant

March 2024

Grand Valley State University

- Grant awarded to undergraduate students to support promising projects throughout the summer semester

CUSTOMER SERVICE

Front of Store Attendant

June 2021 – August 2022

Target

Grand Rapids, MI

- Contributed to a positive team environment by assisting colleagues with tasks and promoting teamwork
- Provided friendly assistance to customers by sharing accurate product knowledge
- Responsible for training new hires

TECHNICAL SKILLS

Languages: Python, C, C++, Java, C#, OCaml

Frameworks/Libraries: JUnit, Numpy, Pytorch, Keras, Tensorflow, OpenGL, Eigen

Developer Tools: Git, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, CMake, Premake