

# Cardell Taylor

cardell.taylor.dev@gmail.com | [github.com/CTaylah](https://github.com/CTaylah)

## 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

*GVSU Computing Club*

August 2024

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

## GRANTS/AWARDS

### Student Summer Scholar Grant

*Grand Valley State University*

March 2024

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

## CUSTOMER SERVICE

### Front of Store Attendant

*Target*

June 2021 – August 2022

*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