

# Cardell Taylor

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## EDUCATION

<b>Grand Valley State University</b> <i>Bachelor of Science in Computer Science, Minor in Mathematics</i>	August 2022 - December 2025 Allendale, MI
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## EXPERIENCE

<b>Research Assistant</b> <i>Grand Valley State University</i>	August 2023 – Present Allendale MI
<ul style="list-style-type: none"><li>Combining modern machine learning techniques solve problems in Bioinformatics</li><li>Designing models to process and generate genomics data using variational autoencoder and GAN frameworks</li><li>Fast paced team environment prioritizing rapid iteration</li></ul>	

## PROJECTS

<b>Arithmetic Compiler</b>   <i>C++</i>	November 2024 - December 2024
<ul style="list-style-type: none"><li>Engineered a compiler for arithmetic expressions from scratch using C++</li><li>Implements and transforms several data structures; such the parse tree, abstract syntax and three address code</li><li>Applied graph-coloring register allocation for usage in code generation.</li><li>Compiles down to x86_64 assembly</li></ul>	
<b>MNIST Michi-GAN</b>   <i>Python, Pytorch</i>	August 2024
<ul style="list-style-type: none"><li>Exploration of the MichiGAN framework for generating disentangled representations of the MNIST dataset, as detailed in the paper <i>MichiGAN: sampling from disentangled representations of single-cell data using generative adversarial networks</i></li><li>Evaluated performance using common metrics like Fréchet Inception Distance (FID) and Inception Score</li></ul>	
<b>Autoencoder</b>   <i>C++, OpenMP, Eigen</i>	Sep 2023 - Nov 2023
<ul style="list-style-type: none"><li>Implemented a neural network from scratch that can be trained to compress and reconstruct image data</li><li>Implements ADAM, a modern optimization technique reduce model convergence time</li><li>Used multithreading with OpenMP to boost performance</li><li>Later moved to python to test adversarial feedback techniques</li></ul>	

## EXTRACURRICULAR

<b>Research Coordinator</b> <i>GVSU Computing Club</i>	August 2024
<ul style="list-style-type: none"><li>Keeping members informed on different research opportunities offered to students</li><li>Connecting students interested in research with faculty mentors</li></ul>	

## GRANTS/AWARDS

<b>Student Summer Scholar Grant</b> <i>Grand Valley State University</i>	March 2024
<ul style="list-style-type: none"><li>Grant awarded to undergraduate students to support promising projects throughout the summer semester</li></ul>	

## CUSTOMER SERVICE

<b>Front of Store Attendant</b> <i>Target</i>	June 2021 – August 2022 Grand Rapids, MI
<ul style="list-style-type: none"><li>Contributed to a positive team environment by assisting colleagues with tasks and promoting teamwork</li><li>Provided friendly assistance to customers by sharing accurate product knowledge</li><li>Responsible for training new hires</li></ul>	

## 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