# Justin M. Garrigus

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## Education

Bachelor of Science in Computer Science: August 2020 - December 2022 (UNT at Denton, Texas)

- Magna Cum Laude; GPA: 3.96

Masters of Science in Computer Science: January 2023 - December 2024 (UNT at Denton, Texas)

- GPA: 3.875
- Thesis: Reducing the Amount of Duplicated Values in the GPU L2 Cache during Lowered Convolution (in progress)

## Posters

- Applying Transfer Learning to Defect Graph Neural Networks for Defect Formation Energy Predictions (UNT Research Day, 2024)
- GPU Implementation of Image Recognition Neural Network Architectures (UNT REU, 2022)

## Papers

- Deputy NoC: A Case of Low Cost Network-on-Chip for Neural Network Accelerations on GPUs (coauthor; submitted. waiting)
- Elastic Float: Lossy Cache Compression for Cost Effective Neural Network Acceleration (coauthor; submitted, waiting)
- **Genomics-GPU: A Benchmark Suite for GPU-accelerated Genome Analysis (coauthor; accepted, ISPASS 2023)**

## Technical Profile

Languages: **C**, **C++**, **CUDA**, **GPGPU-Sim**, **Python** (PyTorch, NumPy), Javascript, Java, C#, Lisp, SQL, Lex/Yacc
Platforms: **Linux**, Windows

## Work Experience

**Teaching Assistant**: UNT — January 2023 to current

- Graded assignments and assisted students in learning class materials during office hours.
- Created new class materials and assignments that follow course objectives.

**Student Researcher**: UNT Lab for Accelerated Computer Architectures — May 2022 to current

- Implemented microarchitectural modifications to a Graphics Processing Unit (GPU) simulator.
- Compared the effects of hardware changes on performance, power, and utilization.
- Collaborated with PhD students and professor to organize tests that demonstrate improvements.

**Online Private Lessons Instructor:** iD Tech — January 2021 to June 2022

- Taught over 600 lessons instructing 7-17 year olds in hour-long tutoring sessions over Math, Programming, and general Computer Science.
- Guided students in proper programming practices ensuring their future success.
- Assisted students in solving unique problems on their individual projects.