

Derek Rodriguez

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- EDUCATION**
- Northeastern University (NU)** **Sept '19 - Present**
Ph.D. in Computer Engineering
Selected Courses: Computer Architecture, High Performance Computing, Systems Security, Applied Probability & Stochastic Processes
Awards: NSF STARS Fellowship
- Clemson University (CU)** **Sept '15 - May '19**
B.Sc. in Computer Science
Selected Courses: Applied Data Science, Linear Algebra, Technical Writing, 2D Game Engine Construction, Deep Learning, Theory of Probability
Awards: Best Undergrad Research, Presidential Scholarship, CU STEM Scholarship, LSCAMP Book Award
- EXPERIENCE**
- NU Computer Architecture Lab** **Sept '19 - Present**
Research Assistant
Developing simulation-driven tool for automated side channel detection in RISC-V microarchitectures.
- Georgia Tech Research Institute** **May '18 - July '18**
SURE Program Intern
Designed and implemented visualizations for multi-petabyte-sized dataset of malware programs for B2B web service.
- CU Scalable Computing Analytics Lab** **Sept '17 - Sept '19**
Undergraduate Research Assistant
Implemented novel technique for predicting memory accesses in GPU applications using convolutional neural networks.
- PROJECTS**
- LQTL: Linear Quadtree with Level Differences**
Improved memory usage by 98% in self-driving robot by implementing novel data structure published in *Constant Time Neighbor Finding in Quadtrees* by Aizawa et al.
- Perceptron: Deep Learning Server for CU School of Computing**
Curated and deployed software stack allowing disjoint research teams at CU to train models on shared hardware without software dependency issues.
- Music Theory Visualization Tool for Guitarists**
Won hackathon by building music visualization software for guitarists using Python, C++11, and SDL2.
- PUBLICATIONS**
- Learning Page Access Patterns for GPU UVM** **SC19 Poster**
Bennet W. Cooper, Derek Rodriguez, Tyler Allen
- Maximizing Throughput on Power-Bounded HPC Systems** **IEEE CLUSTER**
Pengfei Zou, Derek Rodriguez, Rong Ge