

RYAN SYNK

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EDUCATION

University of Maryland, College Park
B.S Mathematics (Departmental High Honors)
B.S Computer Science

August 2016 - Spring 2020
Cum Laude, *3.94 GPA*

RELEVANT COURSEWORK

Undergraduate

Numerical Analysis, Signal Processing, Real Analysis I/II, Partial Differential Equations, Computer Systems, Discrete Structures, Algorithms, Deep Learning, Image Processing

Graduate

Scientific Computing I/II, Advanced Numerical Optimization

WORK EXPERIENCE

Lawrence Berkeley National Lab

Summer 2019

Undergraduate Research Intern — Scalable Solvers Group

- Worked with Dr. Pieter Ghysels on the Structured Matrices Package, a high-performance computing software library written in C++ designed for solving large sparse linear systems.
- Accelerated application using CUDA. Our code outperformed the original, CPU-parallelized application and achieved 3x speedup
- Gained knowledge of GPU architectures and worked on the Summit supercomputer

UMD Comp. Sci Research Experience for Undergraduates

Summer 2018

Adversarial Attacks for Facial Recognition Systems

- Optimized adversarial patches to induce misclassification in a facial recognition neural network
- Worked with a team of undergraduates under the direction of Prof. Tom Goldstein
- Trained Neural Network on the Grace HPC Cluster at UMD

University of Maryland Mathematics Department

Academic Years of 2019 and 2020

Teaching Assistant

- Awarded the Strauss Teaching Assistantship, awarded to a select group of undergraduates every year at UMD
- Ran my own discussion section of Calculus I and Calculus II

TECHNICAL SKILLS

Languages

C, OCaml, Python, Matlab, Java, Ruby, CUDA

Operating Systems and Development Tools

Git, Microsoft, Linux

AWARDS

Higgenbotham Award for Outstanding Junior Mathematics Major

Strauss Teaching Assistantship

UMD Research Experience for Undergraduates Fellowship