

RYAN SYNK

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EDUCATION

Ph.D Student in Computer Science

University of Maryland, College Park

August 2021 - Current

B.S Mathematics, B.S Computer Science

University of Maryland, College Park

August 2016 - Spring 2020

3.94 GPA

EXPERIENCE

Adobe Inc.

Research Scientist/Engineer Intern

May 2023 - August 2023

- Developed open-source, cross-platform benchmarking library for sparse Cholesky factorization algorithms
- Visualized data with polars and Altair, highlighting potential speedups for a bottleneck kernel across many different Adobe products

Kythera Space Solutions

Software Engineer

Nov 2020 - July 2021

- Updated software used to manage a satellite network that provides internet to the continent of Australia
- Extended functionality of satellite resource management software to allow for up to 8 network service providers

Lawrence Berkeley National Lab

Undergraduate Research Intern — Scalable Solvers Group

Summer 2019

- Contributed to the Structured Matrices Package, a high-performance computing (HPC) software library written in C++ designed for solving large sparse linear systems.
- Accelerated application using CUDA. Outperformed the original, CPU-parallelized application and achieved 3x speedup
- Gained knowledge of GPU architectures and tested work on the Summit supercomputer

RELEVANT COURSEWORK

Undergraduate

Numerical Analysis, Signal Processing, Real Analysis I/II, Partial Differential Equations

Graduate

Stochastic Processes, Statistical Machine Learning, Scientific Computing, Advanced Numerical Optimization, Deep Learning

TECHNICAL SKILLS

Languages

C/C++, Python, Matlab

Libraries and Platforms

CUDA, Pytorch

Operating Systems and Development Tools

Git, Linux, Windows, L^AT_EX

AWARDS AND HONORS

Higgenbotham Award for Outstanding Junior Mathematics Major

Latin Honors (Cum Laude, top 5% GPA)

Departmental High Honors in Mathematics