

Matthew Dutson

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Education

University of Wisconsin-Madison

Madison, Wisconsin

MS/PhD in Computer Science

Fall 2018 - Present

- Interests: Computer vision, graphics, machine learning

University of Utah

Salt Lake City, Utah

Honors Bachelor of Science in Physics

Fall 2013 - Spring 2018

- Magnum cum laude
- Minors: Computer science, mathematics
- Thesis: Reconstruction of Cosmic Ray Geometry Using Cherenkov Backscattering

Coursework and Languages

Selected coursework	Machine learning, optimization, computer graphics, algorithms, scientific computing, linear algebra, statistics, differential equations
Most experience	C++, Python, Java, Rust
Some experience	C, C#, Perl, JavaScript, LaTeX, Linux/UNIX

Work Experience

UW-Madison Computer Sciences

Madison, Wisconsin

Graduate Research Assistant

Spring 2020 - Present

- Advisor: Mohit Gupta
- Developing techniques for interpreting data from single-photon visual sensors.
- Exploring theory and applications of spiking neural networks.

Teaching Assistant - CS 559 Computer Graphics

Fall 2019

Graduate Research Assistant

Fall 2018 - Spring 2019

- Advisors: Jignesh Patel, Kevin Eliceiri
- Collaborator on Hustle, a scalable replacement for SQLite written in Rust.
- Wrote a Java application to generate synthetic images of biological fiber networks.

Esri

Redlands, California

Map Exploration Software Intern

Summer 2019

- Created tools for high-performance visibility analysis in ArcGIS Pro.
- Leveraged machine learning for detecting objects in 3D urban scenes.

IM Flash Technologies

Lehi, Utah

Process Software Intern

Summer 2016, Summer 2017

- Wrote Perl scripts to improve the efficiency of manufacturing defect sourcing.
- Improved existing software to reduce errors in process time estimation by 97 percent.
- Built a C++ computer vision application for detecting equipment malfunctions.