Matthew Dutson

mdutson.net

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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   Fall 2019

 – Course: CS 559 - Computer Graphics

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.