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, artificial intelligence, 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

Esri — **Redlands, California**
Map Exploration Software Intern — Summer 2019
- Creating tools for high-performance visibility analysis in ArcGIS Pro.
- Leveraging machine learning for detecting objects in 3D urban scenes.

UW-Madison Computer Sciences — **Madison, Wisconsin**
Graduate Research Assistant — Fall 2018 - Spring 2019
- Collaborator on Hustle, a scalable replacement for SQLite written in Rust.
- Wrote a Java application to generate synthetic images of biological fiber networks.

University of Utah Physics & Astronomy — **Salt Lake City, Utah**
Undergraduate Research Assistant — Spring 2016 - Summer 2018
- Conducted research on atmospheric cosmic ray detection techniques.
- Operated the Telescope Array observatory in Delta, Utah.

University of Utah School of Computing — **Salt Lake City, Utah**
Teaching Assistant — Fall 2017
- Course: CS 2100 - Discrete Mathematics
- Responsible for leading weekly discussions and creating homework solutions.

IM Flash Technologies — **Lehi, Utah**
Process Software Intern — Summer 2017, Summer 2018
- 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.