

# Galen Cochrane

galencochrane.com

cochgale@isu.edu

(208)469-0159

## Education

- **Bachelor of Science in Computer Science**  
Idaho State University, Pocatello, Idaho  
Expected Graduation: Fall 2019
- **Bachelor of Arts in Physics**  
Idaho State University, Pocatello, Idaho  
Expected Graduation: Fall 2019

## Applicable Work Experience:

- **Data Science Consultant**, Lineage Logistics.  
August 2018 - May 2019.  
Designed and developed software for automated mapping and navigation of warehouse facilities using LiDAR data as input. Python was used to implement a GUI from which a user could load a LiDAR dataset and perform automatic classification of a set of expected structures (pallets and racks of goods, freezers, loading bays, etc.) Results of classification were to be used in part as navigational aids for automated forklifts.
- **Computer Graphics Research Assistant**, Idaho State University.  
November 2015 - January 2018.  
Research covered topics including LiDAR data analysis and visualization using ICP and SLAM, real-time applications for virtual reality using the HTC Vive, GPGPU programming, experimental rendering techniques and low level networking. C and C++ were used frequently.
- **LiDAR Research Assistant and Technician**, Idaho State University.  
2017 Summer Position.  
Assembled embedded systems and developed software to be used onboard a UAV as part of an ongoing terrain-mapping project. C++, Python, and the ROS framework were used. Solutions implementing SLAM algorithms (such as LOAM) were pursued. This research was made possible by the NSF Idaho EPSCoR Program and by the National Science Foundation under award number IIA-1301792.
- **Programming Intern**, RISE Complex of Pocatello, Idaho.  
January 2015 - November 2016.  
Experience includes writing Monte Carlo simulation software for nuclear materials research in C and Python, interfacing with a parallel computing cluster, and developing equipment control systems as part of a team of three.

### **Research Presented:**

- **Cochrane, G.**, Sterbentz, M., & Edwards, J. (2016 July). *Real-Time LiDAR Terrain Mapping and Analysis*. Poster session presented at the Idaho Conference on Undergraduate Research, Boise, Idaho.
- **Cochrane, Galen S.** (2016 October) *Real-Time LiDAR Terrain Mapping and Analysis*. Research presented at the Idaho EPSCoR Annual Meeting, Coeur d'Alene, Idaho.
- **Cochrane, G.**, Edwards, J., & Delparte, D. (2017 July). *LiDAR Odometry and Mapping for Terrain Analysis from Unmanned Aerial Vehicles*. Poster session presented at the Idaho Conference on Undergraduate Research, Boise, Idaho.

### **Relevant Proficiencies:**

- Experienced with C, C++, Java, C#, Python, Linux, CMake, Git, OpenGL, LiDAR, ROS, SLAM
- Familiar with OpenMPI, OpenCL, Matlab, SQL, OpenVR, Vulkan, Javascript, HTML/CSS, t-SNE, GloVe
- Able to use debuggers, understand others' code, implement research papers, and has good writing and communication skills
- Fluent in English and Spanish.

### **Leadership Accomplishments and Volunteer Work:**

- Designed coursework and taught high school students basic programming skills over the course of several months as a mentor in Google's 2016-2017 IgniteCS program.
- Served multiple terms as an officer of the Math and Computer Science club at Idaho State University.
- Led teaching sessions in individual and group settings as a Spanish-speaking volunteer in Perú, an Eagle Scout, a calculus tutor, and a ski instructor at multiple resorts.