SEAN RICHARDSON

seanrichardson98@gmail.com

EDUCATION

Lewis & Clark College, Portland Oregon *September 2016 - Present*
Cumulative GPA: 3.963, Math & CS GPA: 4.0, Physics GPA: 4.0
Will graduate in *May 2020* with:
Bachelor of Arts in Computer Science and Mathematics
Bachelor of Arts in Physics

Budapest Semesters in Mathematics, Budapest Hungary *Summer 2019*
An mathematics study abroad program for advanced undergraduates. In this program, I studied Number Theory (grade: A) and Conjecture & Proof (grade: A).

COURSES

- Algorithm Design: A
- Differential Eqns: A
- Linear Algebra: A
- Multivariable Calculus: A
- Computer Graphics: A
- Advanced Graphics: A
- Number Theory: A
- Theory of Computation: A
- Real Analysis: A

RESEARCH EXPERIENCE

Identifying Clouds with Convolutional Neural Networks *Summer 2017*
Our team worked towards an automated process to identify clouds in images of the sky, which could assist climate scientists. We implemented and trained a convolution neural network that can take a picture of the sky as input and distinguish between clear, thin cloud, and thick cloud pixels with 94% accuracy.

3-Orbifolds and their Laplace Spectra *Summer 2018*
This research project considers abstract geometrical constructions called 'orbifolds' (a generalization of a manifold) and asks: if it is only known at what frequencies some unknown orbifold vibrates at (formally the Laplace Spectra), what properties can we deduce about the orbifold? We found such a property, which we call "local orientability".

ACADEMIC ACHIEVEMENTS

Published Academic Paper: Primary author in the paper titled "You can hear the local orientability of an orbifold" in the Journal *Differential Geometry and its Applications*
Acceptance to Pamplin Society: Membership extended to seven students annually; "the highest honor bestowed by the College on its students".
Feynmann Book Award to Outstanding Introductory Physics Student: An award bestowed by the physics faculty to the top stuent based on achievments in the first two years of physics courses.
CCSC Conference Presentation: Poster presentation of cloud identification research in 2017 Consortium for Computing Sciences in Colleges Conference. Our poster won first prize.

OTHER

SQRC Tutor: Tutor at the Lewis & Clark Quantitative Resource Center for mathematics, physics, computer science. *(Fall 2017-Present).*
Grader: A grader for an introductory physics class at Lewis & Clark. *(Fall 2019)*
Extra Curricular: Four year varsity athlete in both the college cross country and track teams.
Programming Languages: Fluency in C, C++, Java, Python, LaTeX