

# SEAN RICHARDSON

seanrichardson98@gmail.com

## EDUCATION

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**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

## CAREER INTERESTS

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**Teaching:** I find particular enjoyment in working as a tutor, which motivates my career interest of teaching. I would enjoy teaching at any level, but teaching at the university level best aligns with my research interests.

**Further Education & Research:** I am interested in pursuing education in mathematics to the Ph.D level. I have a particular interest in the mathematical branch of differential geometry, which I would enjoy pursuing research in.

## RESEARCH EXPERIENCE

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**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

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**Acceptance to Pamplin Society:** Membership extended to seven students annually; "the highest honor bestowed by the College on its students".

**CCSC Conference Presentation:** Poster presentation of cloud identification research in 2017 Consortium for Computing Sciences in Colleges Conference. Our poster won first prize.

**Nomination by School for Goldwater Application:** One of four students per year selected by Lewis & Clark College to apply for the Goldwater Scholarship.

## OTHER

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**SQRC Tutor:** Tutor at the Lewis & Clark Quantitative Resource Center for mathematics, physics, computer science, logic, and basic economics.

**Extra Curricular:** Athlete in the college cross country and track teams.

**Programming Languages:** Fluency in C, C++, Java, Python,  $\text{\LaTeX}$

## REFERENCES

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Name	Email
Iva Stavrov	istavrov@lclark.edu
Liz Stanhope	stanhope@lclark.edu
Paul Allen	ptallen@lclark.edu