

Rachael Schwartz

www.rachaelschwartz.com

New York, NY 10023

EDUCATION

Oberlin College, Class of 2017

B.A. in Mathematics, Minor in Computer Science

Independent Researcher, Oberlin College, Oberlin, OH

Fall 2015 - Spring 2017

- Completed private reading in Computational Geometry, focusing on the mathematics of computer vision algorithms and computer animation techniques with respect to discrete geometry and topology
- Completed private reading in Maya Animation and Modelling, emphasizing 3D computer graphics theory, 3D mathematics, optics, and rendering algorithms
- Wrote C program to find convex hulls of arbitrarily generated point sets, which will be further developed to calculate particular triangulations of point sets and determine patterns underlying isomorphism

COURSEWORK

Group Theory

Algorithms

Topology

Computational Geometry

Number Theory

Mathematical Modeling

Data Structures

Computational Algebra

Foundations of Analysis

AWARDS & HONORS

Film Selected for Screening at the Bridges Math Conference Short Movie Festival (2014)

John F. Oberlin Merit Scholarship to Oberlin College (2013 - 2017)

Scholastic National Gold Medal in Poetry (2012)

SKILLS: C, Java, Python, PostScript, LaTeX, Autodesk Maya, Adobe, Mathematica, Overleaf, Wordpress, Excel

EXPERIENCE

Researcher, Oberlin College Mathematics, Oberlin, OH/NYC/Seoul, Korea

Spring/Summer 2014

- Wrote, storyboarded, animated, edited, and directed an animated short film, which was accepted to the Bridges Math Conference Short Movie Festival; advised by Dr. Robert Bosch, Oberlin College
- Integrated traditional character animation elements into a computer graphics environment; wrote PostScript program to generate and animate the film's entire CG environment, including camera motion/zoom
- Presented film at the 2014 Bridges Conference in Seoul, Korea as part of the Bridges Short Movie Festival

Promotional Filmmaker, Science Online Teen & Science Online, NYC

Spring 2013/Winter 2014

- Created a short promotional animation for the Science Online Teen organization; presented this film at the 2013 Science Online Teen Conference
- Worked closely with Science Online Executive Director to ensure that the organization's visual brand was smoothly integrated into the animation's graphics and style
- Completed planning and storyboarding for a promotional animation for the Science Online organization, which is the national division of Science Online Teen

Videography Intern, American Museum of Natural History, NYC

Summer 2013

- Researched, storyboarded, pitched, and edited news stories for AMNH Science Bulletins, edited B-roll using professional editing equipment and software
- Updated and reorganized AMNH's content management system, tracked and organized department projects
- Assisted in storyboard and production for the Hayden Planetarium's *Dark Universe* Space Show (credited)

Intern, Saltz Internship Program, AMNH, NYC

Summer 2012 - 2013

- Aided Saltz program director in management, organization, and scheduling, trained junior interns in public speaking, narrative presentation, and scientific content
- Presented scientific demonstrations and hosted Q&A sessions in AMNH halls to educate museum visitors
- Conducted individual science research project on geophysical mechanisms of planet formation