

Raymond Liu

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Education

Princeton University, Princeton, NJ

Fall 2019 – Present

Major: Computer Science (B.S.E.)

In-major GPA: 4.00

Cumulative GPA: 3.89

Oregon State University, Corvallis, OR

Fall 2014 – Spring 2019

Cumulative GPA: 4.00 (75 credits as a non-degree student)

Focus on Computer Science and Mathematics

Relevant coursework:

Vector Calculus, Differential Equations, Linear Algebra

Intro to CS 1 and 2, Data Structures, Digital Logic Design

General Physics with Calculus 1, 2, and 3

Crescent Valley High School, Corvallis, OR

Fall 2016 – Spring 2019

Cumulative GPA: 4.00

Official Testing

AP U.S. Government & Politics	5	May 2019
SAT Math / Reading & Writing	800 / 750	Aug 2018
SAT Physics Subject	800	June 2017
SAT Math II Subject	800	May 2017
AP Physics C: Mechanics	5	May 2017
AP Physics C: Electricity & Magnetism	5	May 2017
AP Calculus BC	5	May 2016

Honors, Awards, and Achievements

Qualified for USA Junior Math Olympiad (One of 156 qualifiers worldwide)	Apr 2018
Qualified for American Invitational Mathematics Examination	2016-2018
Oregon Invitational Mathematics Tournament - 3rd Place (Team Event)	May 2018
Oregon Invitational Mathematics Tournament - 4th Place (Calculus)	May 2017
Intel Northwest Science Expo (NWSE) Finalist	Apr 2017
IEEE Excellence in Computer Science Award at Intel NWSE	Feb 2017
Central Western Oregon Science Expo (CWOSE) Finalist	Feb 2017
Yale Science and Engineering Award in Computer Science (at CWOSE)	Feb 2017

Work/Research Experience

Research Project at Princeton University

Joined the [Laboratory for Intelligent Probabilistic Systems](#). Developed a system for visualizing generative models in 3D hyperbolic space. Created a projection of the Poincaré disk model in OpenGL and connected the model with a variational autoencoder.

June 2021
– Present

Research Assistant at Princeton University

Joined the [Princeton Vision & Learning Lab](#) to work on a visual learning project on optical flow. Developed and optimized a system for collecting human-annotated images and predicting ground truth optical flow from annotation pairs.

June 2020
– Aug 2020

Research Intern at Oregon State University

Joined a visual learning project designed to help provide insight into how neural networks make decisions based on meaningful visual concepts. Learned basics of neural nets, helped work on the network using images of birds and focused on visual concepts such as wings, eyes, and beaks.

July 2019
– Aug 2019

Computer Graphics Internship at Oregon State University

Designed a simple ray tracer / image renderer from scratch using C++. Tested and implemented a variety of methods to increase image realism and accelerate rendering speed.

June 2018
– Aug 2018

Teaching Assistant For CS162 at Oregon State University

Guided students during regular office hours and on Canvas. Graded and provided feedback for projects and labs.

Sept 2017
– Mar 2018

Application Development / Computer Science Projects

Designed and developed a web interface that allows users to automatically block advertisements in podcasts – still in progress. Designed and developed a Google Play Store application that allows users to create simple quaternary search trees – uses Unity game engine.

Aug 2017
– Present

Intel Science and Engineering Fair

Continued prior work on developing a method for the diagnosis of Alzheimer's disease using neural networks. Implemented a technique for processing 3D MRI scans to improve the stability and accuracy of the existing neural network.

Feb 2016
– Sep 2017

Skills

C++	Proficient
C	Proficient
Java	Familiar (Used for several classes)
Python	Proficient
HTML, CSS, JavaScript, JQuery	Proficient
Git/GitHub	Proficient
Bash	Familiar
LaTeX	Familiar (Used to write reports for classes)
OpenGL	Familiar

Hobbies

Ping Pong (semi-professional)

Was a coach for Oregon State University's ping pong club, as well as for Princeton's ping pong club.

Played at several U.S. national tournaments, as well as many state and local tournaments in Oregon.

White Water Rafting

Rafted at several locations, including McKenzie River (Oregon), Clackamas River (Oregon), and Flathead River (Montana). Experienced at up to Class IV rapids.

Rock Climbing

Belay certified at Dixon Recreation Center, Oregon State University.
