

# Eugene Y. Q. Shen

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## Education and Awards

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### UNIVERSITY OF BRITISH COLUMBIA

SEPTEMBER 2015–PRESENT

- 90.0% GPA, Faculty of Applied Science, Major in [Engineering Physics](#), Minors in Honours Math and Music Composition.
- Received the [Trek Excellence Scholarship](#) every term, awarded to the top 5% of students in each faculty and each year.
- Best student in [Algorithms II](#) (95%), [Software Construction](#) (98%), [Digital Systems](#) (100%), and [Real-Time OS](#) (100%).

8TH IN DIVISION ONE, [ACM-ICPC PACIFIC NORTHWEST REGIONAL PROGRAMMING COMPETITION](#) NOVEMBER 2017

2ND IN DIVISION TWO, [ACM-ICPC PACIFIC NORTHWEST REGIONAL PROGRAMMING COMPETITION](#) NOVEMBER 2015

## Work Experience

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### UBC, RESEARCH ASSISTANT

SEPTEMBER 2018–PRESENT

- Designing a distributed system to run simulations for a chemical reactors control course under [Dr. Bhushan Gopaluni](#).

### GOOGLE, SOFTWARE ENGINEERING INTERN

MAY 2018–AUGUST 2018

- Created an [npm module](#) with TypeScript to help integrate Google's [Stackdriver Debugger](#) with various IDEs.
- Created a [proxy server and extension](#) for [Chrome DevTools](#), and a debug adapter extension for [Visual Studio Code](#).
- Created a Stackdriver Debugger service in Node.js for [ndb](#), which was its second ever service.

### NEXEDI, SOFTWARE ENGINEERING INTERN

JANUARY 2017–APRIL 2017

- Prototyped a [WebRTC](#) messaging app for serverless browser-to-browser communication.
- Designed a message class for internal communications in Nexedi's [ERP5 platform](#).
- Wrote the [tutorial](#) for Nexedi's [RenderJS framework](#), which demonstrates how to make a to-do app.

### CHANGENUITY, FULL-STACK DEVELOPER

NOVEMBER 2016–NOVEMBER 2017

- Devised a platform to match freelancers with global development projects, in a startup of five students.
- Directed full stack integration and built the platform backend using Ruby on Rails, Heroku, and AWS.

### UBC, TEACHING ASSISTANT (INTRODUCTION TO C)

JANUARY 2016–APRIL 2016

- Marked over 70 labs every week, using my own [Python script](#) to automatically display and compile the labs.

## Technical Projects

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### GANs FOR HISTOPATHOLOGY

SEPTEMBER 2018–PRESENT

- Capstone project to use generative adversarial networks to create tissue images, sponsored by the BC Cancer Agency.
- Goal is to train deep neural networks on both expert-annotated and generated images to recognize diseased tissues.

### ICE NUCLEATION TRACKER

OCTOBER 2017–MARCH 2018

- Volunteered in [Dr. Allan Bertram's lab](#) to analyze ice nucleation in samples of Arctic seawater.
- Used [OpenCV](#) to automatically detect when droplets froze, potentially saving dozens of hours of work.

### UBC PREREQUISITE TREE

APRIL 2016–DECEMBER 2017

- Processed natural language data scraped from university websites to generate course pre-req trees.
- Displayed the tree in Python/TkInter, and in JavaScript/React for [online access](#) by the general public.

### SIGHT READING DRILL GENERATOR

AUGUST 2016–JANUARY 2017

- Scripted a Python tool to generate random musical intervals and arbitrary chords using [Lilypond](#), which was adopted by the UBC [Chair of Music Theory](#) to generate graded sight-reading quizzes for the first year music theory course.
- Published the [alpha version](#) of an [Android app](#) for mobile practice with random intervals.

### POLYTOPE VISUALIZER

SEPTEMBER 2015–FEBRUARY 2016

- Developed a Python application to display and rotate 3D polyhedra and 4D polytopes.
- Parsed Wythoff and Schläfli symbols to create over 60 uniform polyhedra and all regular polytopes.