Eugene Y. Q. Shen

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Education and Awards

UNIVERSITY OF BRITISH COLUMBIA (UBC)   SEPTEMBER 2015–MAY 2020 (EXPECTED)

- 90.0% GPA, Bachelor of Applied Science, Major in Engineering Physics, Minor in Music Composition; Canadian citizen.
- Awarded the Trek Excellence Scholarship every year, given to the top 5% of students among each year of each faculty.
- Best student in Algorithms II (95%), Software Construction (98%), Digital Systems (100%), and Real-Time OS (100%).

16TH (OUT OF 4046), IEEEXTREME PROGRAMMING COMPETITION (USING C++)   NOVEMBER 2018

8TH IN DIVISION ONE, ACM-ICPC PACIFIC NORTHWEST PROGRAMMING CONTEST (USING C++)   NOVEMBER 2017

2ND IN DIVISION TWO, ACM-ICPC PACIFIC NORTHWEST PROGRAMMING CONTEST (USING PYTHON) NOVEMBER 2015

4TH (OUT OF 1706) IN ROUND ONE, NORTH AMERICAN COMPUTATIONAL LINGUISTICS OLYMPIAD   MARCH 2015

2ND IN WESTERN CANADA, CANADIAN COMPUTING COMPETITION (USING PYTHON)   JANUARY 2014

Work Experience

UBC, RESEARCH ASSISTANT; VANCOUVER, CANADA   OCTOBER 2018–PRESENT

- Designing a distributed system to manage labs for a chemical engineering controls course, under Dr. Bhushan Gopaluni.

GOOGLE, SOFTWARE ENGINEERING INTERN; SUNNYVALE, CALIFORNIA   MAY 2018–AUGUST 2018

- Made an npm package in TypeScript to abstract Google's Stackdriver Debugger's REST interface for other developers.
- Using that package, constructed a Node.js service for ndb, which lets users debug their Google Cloud apps in production.
- Developed a proxy server and extension for Chrome DevTools, and a debug adapter extension for Visual Studio Code.

CHANGENUITY, FULL-STACK DEVELOPER; REMOTE   NOVEMBER 2016–NOVEMBER 2017

- Built an online platform that matches freelancers with global development projects, in a startup of five UBC students.
- Directed integration by managing the frontend and backend developers. Used Ruby on Rails, Heroku, and Amazon S3.

UBC, TEACHING ASSISTANT (INTRODUCTION TO C); VANCOUVER, CANADA   JANUARY 2016–APRIL 2016

- Marked over 70 labs every week, using my Python script to automatically display and compile them, in freshman year.

Selected Technical Projects

GANS FOR HISTOPATHOLOGY   OCTOBER 2018–PRESENT

- Capstone project to use generative adversarial networks to create tissue images, sponsored by the BC Cancer Agency.
- Goal by March 2019 is to train neural networks on expert-annotated and generated images to recognize diseased tissues.

ICE NUCLEATION TRACKER   OCTOBER 2017–MARCH 2018

- Analyzed ice nucleation in Arctic seawater by recording the temperature when droplets froze, under Dr. Allan Bertram.
- After months of manual labour, used my Python script with OpenCV to automatically detect droplets changing colour.

COURSE PREREQUISITE TREE   APRIL 2016–DECEMBER 2017

- Scraped data from multiple UBC websites and processed the natural language content into trees of course prerequisites.
- Rendered the tree in Python's TkInter module for desktop users, and in React for online access by the general public.

SIGHT READING DRILL GENERATOR   AUGUST 2016–JANUARY 2017

- Generated random music intervals and chords with my Python script, which makes and compiles Lilypond files to PDF.
- Used by the UBC Chair of Music Theory to test freshman music students on interval and chord identification abilities.
- Published the alpha version of an Android app on Google Play to help students study for these tests on mobile devices.

POLYTOPE VISUALIZER   SEPTEMBER 2015–FEBRUARY 2016

- Created a Python app to display and rotate polyhedra and polytopes, using TkInter to draw the canvas and the GUI.
- Parsed Wythoff symbols and Schläfli symbols to create more than 60 uniform 3D polyhedra and all regular 4D polytopes.