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# AUSTIN LAU

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## **EDUCATION**

Princeton University | Princeton, NJ

Class of 2023

B.S.E. Operations Research and Financial Engineering

GPA 3.925

**Certificates:** Computer Science, Statistics and Machine Learning

**Relevant Coursework:** Algorithms and Data Structures, Reasoning about Computation, Computer Science, Optimization, Financial Mathematics, Probability and Stochastic Systems, Statistics, Economics

## **SKILLS**

**Programming Languages & Software:** Java, Python, OpenGL, C++, AMPL, R, Excel, LaTeX, SCCM, Git

**Technical:** Mathematical Modeling, Algorithm Design, Linear Programming, Stochastic Calculus, Computer Graphics

**Design:** Adobe Creative Suite (Illustrator, InDesign, Photoshop, XD), Final Cut Pro, Apple Motion

**Foreign Language:** Japanese (Professional Working Proficiency)

**Certifications & Achievements:** Eagle Scout, 2x Honolulu Marathon Finisher

## **INDEPENDENT RESEARCH**

**"Stochastic Modeling of Respiratory Disease Spread on College Campuses"; Adviser: Mete Soner**

Princeton University Project X Fund | Princeton, NJ (Remote)

May 2020 - Present

- Write modular Python code to model stochastic disease transmissions between discrete agents over time
- Construct framework of layered social network subgraphs to represent individual agent interactions
- Build a 28,000-agent model of Cornell University's student body from 100,000s of demographic data points
- Test the effects of varying environmental and intervention variables on viral outbreak magnitudes by simulating coronavirus epidemics on the Cornell model

## **WORK EXPERIENCE**

**Algorithm Engineering Intern**

HeyGears 3D Printing | Irvine, CA (Remote)

September 2020 - Present

- Design and implement a data serialization function for a novel volumetric representation of 3D objects
- Develop application to generate polygonal meshes from volumetric model data and render output in an interactive window, using C++, OpenGL, and GLSL

**Engineering Intern**

Voya Investment Management | New York, NY (Remote)

June 2020 - August 2020

- Built Excel functions to improve the efficiency of large spreadsheet consolidations fivefold
- Created an automated MS Planner workflow that will save Voya sales team an estimated 2-3 hours per week
- Wrote SQL scripts to automate the compilation of diagnostic reports from employee databases
- Deployed Salesforce to 6,000 end user workstations using Microsoft SCCM

**Business Development Manager**

Karyo Inc. | Princeton, NJ

June 2019 - May 2020

- Developed UI/UX designs for mobile and desktop websites of a crowdsourced review app for concerts
- Scraped and refined web data to help build database of 24,000 musicians and venues
- Managed \$5,000 business/marketing budget and spearheaded social media advertising campaigns
- Produced and analyzed statistics on audience acquisition and user behavior via Google Analytics

**Computer Science Grader**

Princeton University | Princeton, NJ

February 2020 - May 2020

- Assist with grading 250 students' coding assignments for COS 226: "Algorithms and Data Structures"
- Provide students with feedback and comments to help them improve their code on future projects

## **CAMPUS LEADERSHIP**

Head Graphic Designer | IgniteSTEM (Educational Technology Nonprofit)

Treasurer | Princeton Camerata Orchestra

Senior Designer | The Daily Princetonian