

# KARL XIAO

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## EDUCATION

### Carnegie Mellon University

B.S. in Computer Science, B.S. in Computational Finance

**Expected May 2022**

*Pittsburgh, PA*

- **GPA:** 3.87/4.00, **SAT:** 2390/2400
- **Coursework:** Distributed Systems, Functional Programming, Machine Learning, Stochastic Calculus, Economics

## WORK EXPERIENCE

### SEA Group

Software Engineer Intern

**Jun 2020 | Aug 2020**

*Singapore, Singapore*

- Implemented UI/UX components in ReactJS for a comprehensive Human Resources module that augments the company's Seataalk app by allowing attendance, leave, and claim issues to be locally reported and centrally managed
- Built email templates using HTML/CSS from scratch, contribute multi-language support, and send HTTP requests to deliver them to companies during the onboard process after they sign up for the HR platform
- Added customizable elements in Typescript to proprietary UI component library for front-end development use

### Summer Undergraduate Research Program in Computational Finance

**Jun 2019 | Jul 2019**

Research Associate

*Pittsburgh, PA*

- Investigated under the guidance of Dr. William Hrusa the pricing of long-maturity Forex options under various interest rate, volatility, and intrinsic value assumptions under the Binomial and stationary Black-Scholes models
- Performed Python and C simulations to show the convergence of optimal early-exercise boundaries in multi-period discrete models to values predicted by the stationary Black-Scholes ODE as maturity approaches infinity
- Visualized asset pricing as a function of time and underlying stock price using Matplotlib's graphing functionalities

### Singapore Students Association, Carnegie Mellon University

**Feb 2019 | Feb 2020**

Treasurer

*Pittsburgh, PA*

- Constructed and monitored a \$6,000+ annual budget that allowed the SSA to organize team-building sports activities, celebrate local festivals, and promote Singapore culture while maintaining its good financial standing
- Led the planning and execution of large-scale campus events such as Chinese New Year and Mid-Autumn Festival

### MoneyThink CMU

**Jan 2019 | Dec 2019**

Mentor Captain

*Pittsburgh, PA*

- Provided weekly 1-hour mentorships for 30+ High School Juniors and Seniors from various Pittsburgh-area public schools on personal finance topics such as savings, credit cards, taxes, insurance, and college preparation
- Headed a 3-person team in coordinating with school authorities and creating lesson material for each session

## PERSONAL PROJECTS

### Personal Website

**Dec 2019 -**

Languages & Frameworks: HTML, CSS, JavaScript, Bootstrap CSS, ReactJS

*Pittsburgh, PA*

- Document academic, project and extracurricular involvements on a website built from scratch using basic UI tools

### Stock Market Tracking

**Summer 2018**

Languages & Frameworks: Get and Transform (Excel), Power Query M, VBA, Google API

*Singapore, Singapore*

- Created an Excel spreadsheet that linked to live and time-series data on Google Sheets and Google Finance
- Used Get and Transform as well as VBA macros to format and convert data into graphics for technical analysis

## HONORS

**Putnam Competition:** Top 600/3500 Participants

**Dec 2019**

**CMU Quantathon:** Honorable Mention (7/53 teams)

**Feb 2019**

**Keith Block Entrepreneurship Competition:** 1st Place

**Nov 2018**

## SKILLS and INTERESTS

**Technical Skills:** C, C++, JavaScript, HTML/CSS, Python, R, Linux, Standard ML, Java, Bash, VBA

**Languages:** English (native), Mandarin (native), French (fluent), Spanish (basic)

**Other interests:** Running, Solo Travelling, Piano, Saxophone, Old Movies