KARL XIAO

5143 Fifth Avenue, Pittsburgh, PA 15232

kzx@andrew.cmu.edu | https://kxiao.net | (+1)-412-452-8228

EDUCATION

Carnegie Mellon University, School of Computer Science   **Expected May 2022**
B.S. in Computer Science, B.S. in Computational Finance   *Pittsburgh, PA*

- **GPA:** 3.87/4.00, **SAT**: 2390/2400
- **Coursework:** Algorithms, Computer Systems, Functional Programming, Probability, Economics, Accounting

WORK EXPERIENCE

Labs@Sea   **Jun 2020 –**
Software Engineer Intern   *Singapore, Singapore*

- Implemented UI/UX components in ReactJS for a comprehensive Human Resources module developed at Sea Group (NYSE: SE)'s in-house incubator to manage attendance and process claims for Southeast Asian companies
- Contributed front-end design ideas, bug fixes, and translation improvements in a wide range of company products

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 and time-dependent results using Matplotlib's scientific graphing functionalities

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

Munich Re Singapore Branch   **Nov 2017 | May 2018**
Valuation Intern   *Singapore, Singapore*

- Wrote automation scripts in MS Excel's VBA language to optimize data consolidation from regional offices and determine key indicators such as fund solvency and Embedded Value for purposes of statutory reporting
- Scrutinized and summarized in an Excel-based dashboard the features and performance of 40+ overseas reinsurance treaties that were slated for incorporation by mid-2018 into Singaporean accounts

PERSONAL PROJECTS

Personal Website   **Dec 2019 -**
Languages & Frameworks: HTML, CSS, JavaScript, Bootstrap CSS, ReactJS   *Pittsburgh, PA*

- Document academic, club, and extracurricular activities on a website built from scratch using basic UI tools
- Host a ReactJS single-page web application (SPA) that enables users to search and bookmark GIFs from Giphy

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* and VBA to format and convert data into graphic objects for use in 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, Python, R, HTML/CSS, Linux, Standard ML, Java, Bash, VBA
Languages: English (native), Mandarin (native), French (fluent), Spanish (basic)
Other interests: Running, Backpacking, Piano, Saxophone, Old Movies