KARL XIAO

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EDUCATION

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

- **GPA:** 3.89/4.00, **SAT**: 2390/2400
- **Coursework:** Distributed Systems, Functional Programming, Machine Learning, Stochastic Calculus, Economics

WORK EXPERIENCE

SEA Group   **Jun 2020 | Aug 2020**
Software Engineer Intern   *Singapore, Singapore*

- Implemented UI/UX features in ReactJS to better aggregate data from mobile apps into a web-based HR solution
- Built HTML/CSS- based templates for websites to deliver multilingual and responsive notification emails to users
- Added customizable components in Typescript to a proprietary UI library for front-end developer reuse

Summer Undergraduate Research Program in Computational Finance   **Jun 2019 | Jul 2019**
Research Associate   *Pittsburgh, PA*

- Investigated under Dr. William Hrusa the pricing of Forex Options with varying payoff and market assumptions
- Performed Python and C simulations to show the convergence of optimal early-exercise boundaries in multi-period Binomial models to values predicted by a stationary Black-Scholes model
- 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*

- Maintained the financial health of the Association by creating and prudently disbursing a $6,000+ annual budget
- Organized large-scale events such as team-building activities, campus outreach, and celebrations of local festivals

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 3-person teams in coordinating with school authorities and creating lesson material for each session

PERSONAL PROJECTS

Visual Question Answering (VQA)   **Nov 2020 – Dec 2020**
Languages & Frameworks: Python, Pytorch   *Pittsburgh, PA*

- Answered blind people's questions about self-taken images with Attention-based Convolutional Neural Networks
- Achieved 4% higher test accuracy than a strong baseline by finetuning our model and applying data augmentation

Stock Market Tracking   **Summer 2018**
Languages & Frameworks: Microsoft Excel, Power Query M, VBA, Google API   *Singapore, Singapore*

- Created an Excel spreadsheet that connects 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**
Keith Block Entrepreneurship Competition: 1st Place   **Nov 2018**

SKILLS and INTERESTS

Technical Skills: C, C++, Go, JavaScript, HTML/CSS, Python, R, Linux, Standard ML, Java, Bash, VBA
Languages: English (native), Mandarin (native), French (fluent), Spanish (basic)
Extracurriculars: Running, Solo Travelling, Piano, Saxophone, Old Movies