KARL XIAO

5143 Fifth Avenue, Pittsburgh, PA 15232

kzx@andrew.cmu.edu | (+1)-412-452-8228
https://kxiao.net | https://github.com/kxiao1

EDUCATION

Carnegie Mellon University   **Expected May 2022**
B.S. in Computer Science, B.S. in Computational Finance   *Pittsburgh, PA*
- **GPA:** 3.90/4.00, **SAT**: 2390/2400
- **Coursework:** Distributed Systems, Reinforcement Learning, Algebra, Real Analysis, Fixed Income, 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 future use in front-end development

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 theoretical Black-Scholes ODE values for long-maturity options
- 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 crafting 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 hourlong mentorships in personal finance to 30+ High School students from local public schools
- Worked with schoolteachers to deliver lessons on savings, credit cards, taxes, insurance, college, and other topics

PERSONAL PROJECTS

Chess2D   **Jan 2021**
Languages & Frameworks: Java, JavaFX, Maven   *Pittsburgh, PA*
- Built a standalone, object-oriented GUI application (2000+ lines of code) that fully implements all chess rules
- Simulated gameplay on a 2D chessboard that highlights legal moves and automatically detects checks/checkmates

Todo-Logs   **Dec 2020**
Languages & Frameworks: ReactJS, Django   *Pittsburgh, PA*
- Deployed a full-stack web app to store and visualize a list of completed and ongoing tasks in various formats
- Secured all HTTP requests with JSON Web Token (JWT)-based authentication within a RESTful architecture

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 with feature-aware CNN models and data augmentation

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