

Ruiran Xun

rxun@cmu.edu | xun.ruiran@gmail.com

(703) 944-9705

<https://www.linkedin.com/in/ruiran-xun/>

Education

- **Carnegie Mellon University** Pittsburgh, PA
B.Sc. Chemistry and Computer Science, Minor in Collaborative Piano May 2022

Work Experience

- **Carnegie Mellon University School of Computer Science** Pittsburgh, PA
Teaching Assistant (15-122: Principles of Imperative Computation) August 2019 — present
 - Assists in teaching code correctness, data structures, and algorithms to over 500 students
 - Leads lab sessions, facilitating a collaborative and open environment for student learning
 - Guides student understanding of concepts and assignments one-on-one during office hours
- **ExpII, Inc.** Pittsburgh, PA
Content Writing Intern (Mathematics) September 2018 — May 2019
 - Created and moderated educational content targeted towards high school students
 - Authored engaging problems, solutions, and explanations for topics in algebra and geometry
 - Assisted in creation of mathematics curricula based upon existing pedagogical research
- **Carnegie Mellon University School of Music** Pittsburgh, PA
Collaborative Pianist August 2018 — present
 - Serves as rehearsal pianist for the School of Music's productions, including *The Light in the Piazza* (Jan 2020) and *Turn of the Screw* (April 2020), during both staging and tech
 - Plays repertoire for studio lessons and coachings of first- and second- year voice majors

Leadership

- **Scotch'n'Soda Theatre** Pittsburgh, PA
Secretary (Board of Directors) May 2019 — April 2020
 - Monitors production of six to seven shows per academic year by over 200 active members
 - Communicates key events and information to general membership weekly through emails
 - Connects with members of current productions to proactively identify and remedy conflicts
- **CMIMC Organizing Team** Pittsburgh, PA
Logistics Officer May 2019 — April 2020
 - Oversees the operations of the Carnegie Mellon Informatics and Mathematics Competition
 - Coordinates scheduling of 400+ high school participants over multiple rounds of competition

Projects

- **Cleversign: A Real-Time American Sign Language Interpreter** 2018
 - Built a classifier that outputs English letters given visual webcam input of ASL hand signs
 - Retrained Google's Inception-V3 convolutional neural network (CNN) using TensorFlow
 - Utilized OpenCV for image preprocessing, i.e. isolating shape of the hand in each frame

Research Experience

- **Carnegie Mellon University** Pittsburgh, PA
Noonan Research Group (Polymer Chemistry) May 2019 — present
 - Conducted research through the Summer Undergraduate Research Apprenticeship (2019)
 - Investigates novel syntheses of organic cations that functionalize anion exchange membranes

Skills

- **Coding:** C, Java, Python, Mathematica, L^AT_EX, HTML/CSS, Javascript
- **Laboratory:** H-NMR, C-NMR, IR, UPLC-MS, GC-MS, GPC
- **Language:** Fluent in English and Chinese, conversant in Spanish
- **Other:** collaborative piano, photography, digital media editing