Jaron J. Cui

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Availability: January - June 2022 | Boston, MA | github.com/jaron-cui | jaron-cui.github.io

Education

Northeastern University, Boston, MA | Khoury College of Computer Sciences   Sept. 2020 – Present
Candidate for a Bachelor of Science degree in Computer Science   Expected May 2024

Honors:	**GPA:** 3.96/4.00	Dean's List	Honors Scholarship
Relevant Coursework:	Fundamentals of Computer Science I and II (Accelerated), Object-Oriented Design, Mathematics of Data Models, Logic and Computation, Computer Systems, Algorithms and Data

Computer Knowledge

Operating Systems:	Windows, Linux
Languages:	*Proficient:* Java, Python, Javascript, Racket	*Familiar:* C++, C, Lean
IDEs:	Visual Studio, IntelliJ, Pycharm, Eclipse, Atom
Tools:	Git, Git Bash, Node.js, React Native, Blender, Robot Operating System, VirtualBox, KLayout, Autodesk Inventor, LaTeX

Projects

Personal Schedule App | *React Native*, *Javascript*, *Cascading Style Sheets*   In-progress
- Using React Native to develop a personal scheduling and reminders app that tracks courses, clubs, homework, exams, and other regular commitments throughout the week.

Minecraft in Racket | *Racket*
- Constructed a clone of the popular game *Minecraft* in the functional programming language, Racket. Features include 3D graphics, destructible infinite procedurally-generated terrain, and entity physics.

Parameterized Photolithographic Mask GDS Generator | *Python, KLayout*
- Built a Python program that creates layouts for a nanoscale wafer design. Programmed under contract for a Binghamton University research group. This project was used to fabricate microphone prototypes at the Cornell Nanoscale Facility. Learned how to use L-Edit and KLayout layout software scripting for this project.

Math Worksheet Generator | *Python*, *LaTeX*
- Created a configurable, extensible Python program that produces randomized worksheets with mixed types of simple math problems and an answer key. Uses LaTeX for document formatting and PDF generation.

Graphical Image Editor Application | *Java*, *Swing*
- Designed and implemented a scriptable image editor application using Java and the Swing graphical user interface library. The application supports layers, image transformations (smooth downscaling, linear and filter-based color transformations, image blurring/sharpening), pattern generation, translucency, and project saving/loading. The compiled executable can launch either the graphical interface or a text-based interface.

Maze-Navigation Game | *Java*
- Assembled a maze generator with orthogonal and hexagonal generation settings. Features include animated generation, a color-gradient distance overlay, and animated breadth-first and depth-first search.

Work Experience

TA for Fundamentals of Computer Science I, **Northeastern University**, Boston, MA   Sept. 2021 - Present
- Helping students with classwork during weekly lectures
- Holding weekly office hours for a class of 116 students
- Grading assignments and exams and providing feedback to students

Software Developer Co-op, **Power Advocate Inc.**, Boston, MA   Anticipated Jan. 2022 - July 2022

Activities / Interests: 2D/3D Modeling+Animation, Piano, Biking, HackBeanpot Hackathon, Ping-pong