

Jiayi Li

Providence, RI | jiayi_li6@brown.edu | 516-606-5597 | [ririley.github.io](https://github.com/ririley)

Education

- Brown University** – Providence, RI Exp: May 2026
Master of Science in Computer Science **GPA: 3.75**
- **Coursework:** Interactive Computer Graphics, Computational Design and Fabrication
- Boston University** – Boston, MA Jan 2024
Bachelor of Arts in Computer Science and Statistics **GPA: 3.78**

Research Experience

- Research Assistant**, Brown University (PI: David Laidlaw) – Providence, RI Jun 2025 – Present
- Built an automated data generation pipeline by integrating 4+ AI models (ChatGPT, Flux, SAM, background-removal) in Python, enabling scalable image and text processing for infographic datasets.
 - Curated a high-quality training dataset by evaluating images image-by-image using defined quality criteria, reducing the pool from 37,000+ raw samples to 11,500+ reliable entries and, improving model consistency.
 - Led monthly research syncs and collaborated on dataset design, creating structured infographic variations through text-to-image prompting strategies and reusable prompt templates.
 - Designed an evaluation framework for infographic generation, defining metrics for visual coherence, structural accuracy, and semantic clarity, and benchmarked Style-Aligned to identify performance gaps and guide future comparisons.

Professional Experience

- UI/UX Design Intern**, PCCW Global – Beijing, China Mar 2024 – Jun 2024
- Led user and competitive research using task-flow mapping and feature benchmarking to uncover key usability gaps, directly shaping the direction of two new internal web product features.
 - Proposed 10+ design strategies through interaction analysis and UI trade-off evaluation, improving visual clarity, navigation efficiency, and workflow consistency across the platform.
 - Designed and prototyped responsive interface layouts in close collaboration with PMs, engineers, and UX designers, ensuring design–development alignment and enabling a smoother product handoff process.

Projects

- Custom Matryoshka Doll Design & Fabrication System**, Brown University Oct – Dec 2025
- Developed an end-to-end nested-doll fabrication system in C++, integrating clay-style 3D sculpting with real-time mesh deformation using barycentric projection and smooth-falloff algorithms, transforming organic concepts into manufacturable 3D-printable outputs.
 - Built a C++/Qt Creator shell-splitting and validation pipeline by implementing parametric inner-shell generation, plane-based mesh segmentation, and real-time collision checking with 3-axis translation controls, enabling reliable fabrication of hollow, interlocking nested-doll components.
- Raft Consensus Implementation (Go, Distributed Systems)**, Boston University Jan – Apr 2023
- Improved browser-side stability by implementing the Raft consensus protocol in Go, enabling reliable leader election, log replication, and fault-tolerant coordination across distributed nodes.
 - Analyzed design trade-offs in a distributed request–response system by running failure-injection tests and timing benchmarks, improving overall system stability and reproducibility.

Skills

- **Languages:** C++, C, Java, Python, SQL, JavaScript, Go, R, English (fluent), Mandarin (native)
- **Technologies:** Qt Creator, OpenGL, VSCode, Figma, SQLite, Xcode, RStudio