

Uijin Cho

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EDUCATION

Brown University

Providence, RI

Sc.B. Computer Science, Applied Mathematics

GPA: 4.0/4.0 | Expected May 2029

- **Relevant Coursework:** Accelerated Introduction to Computer Science, Probability and Statistics, Computer Systems
- **Campus Involvement:** Women in Computer Science, Hack@Brown, Socially Responsible Investment Fund, Badminton Team

Machine Learning Certificate, Coursera (Stanford University)

Earned August 2025

West Valley College

Saratoga, CA

Certificate of Achievement in Mathematics

Earned December 2024

- **Relevant Coursework:** Object-Oriented Programming, Data Structures & Algorithms, Multivariable Calculus, Linear Algebra

EXPERIENCE

Investment Research Analyst

Providence, RI

Socially Responsible Investment Fund, Brown University

November 2025 – Present

- Analyze **financial, ESG, and sector data** to assess alignment of Brown's investment portfolio with socially responsible criteria.
- Develop **research briefs** and **quantitative models** informing decisions, shareholder engagement, and divestment proposals.
- Synthesize findings into presentations for committee discussions and long-term policy planning.

Software Engineer & Coach

San Jose, CA

Robolabs

March 2024 – August 2025

- Engineered a **PID system** for VEX Robotics to enhance motor response precision and stability through real-time signal tuning.
- Authored a **modular open-source C++ curriculum** deployed to 3K students, integrating algorithms and robotics fundamentals.
- Instructed 50 students in robotics, mathematics, and programming, developing learning tracks individualized to each student.

Engineering Intern

Mountain View, CA

Evodyne Robotics

June 2023 – August 2023

- Reengineered a **3D-printed pulse motor kit**, reducing print time by **90%** through manufacturing optimization analysis.
- Taught **CAD modeling and mechanical constraints** in Fusion360 with real design constraints in robotics applications.
- Resolved **memory management inefficiencies** in an Arduino C library by merging redundant codebases for 80+ users.

PROJECTS

Monsoon-Driven Air Quality Analysis in Seoul, SK | Python, NumPy, SciPy, Pandas

<https://github.com/uijincho/seoul-monsoon>

- Engineered a **time-series analysis pipeline** processing environmental data to quantify shifts in urban air pollution patterns.
- Identified a temporal shift in PM2.5 peak concentrations, revealing **50.7%** increase in cumulative pollutant exposure.

Image to Lithophane STL Generator | ReactJS, Javascript, Three.js

<https://github.com/uijincho/lithophane-js>

- Built a browser-based pipeline **converting images into 3D surface meshes** using matrix analysis and computational geometry.
- Reduced mesh generation time by **60%** via spatial partitioning optimization, balancing efficiency and geometric fidelity.
- Streamlined surface triangulation, decreasing vertex density by **35%** while maintaining structural accuracy.

2D Robot Arm Simulator | Numpy, Pygame

<https://github.com/uijincho/2DRobotArmSim>

- Developed a Python simulator performing **inverse kinematics optimization**, enabling precise multi-joint robotic arm motion.
- Implemented **Jacobian Transpose** iterative methods, achieving high-accuracy convergence with numerical stability.
- Designed real-time data visualization and event-driven interaction, delivering insights at **60 FPS** performance.

LEADERSHIP

Experience Organizer | Hack@Brown

August 2025 – Present

- Collaborate with a cross-functional team to design an experience for **350+ participants** using data-driven engagement strategies.
- Partner with engineers and mentors from Microsoft, Google, and D.E. Shaw to incorporate technical rigor into event workflows.
- Lead **participant analytics**, using quantitative insights to optimize event logistics and enhance user satisfaction.

Director | Blu's Hacks

August 2023 – June 2025

- Directed a large-scale hackathon, fostering computational and quantitative skill development among students.
- Negotiated **\$36K** in sponsorships, establishing partnerships with corporate organizations through strategic analysis and outreach.
- Expanded participation by **25%** and mentored a student leadership team, implementing scalable workflows for future organizers.

SKILLS

Programming & Analytical Tools: Python, SQL, C++, NumPy, Pandas, Matplotlib, TensorFlow, Excel, PowerPoint, Tableau, Git

Quantitative Skills: probability, statistics, numerical optimization, data analysis, simulation, iterative algorithms, real-time systems

Professional & Leadership Affiliations: National Center for Women & Information Technology, Rewriting the Code