

Luke Choi

☎ 860-515-7718 | ✉ luke_choi@brown.edu | 📍 Avon, CT

EDUCATION

Brown University

Providence, RI

Double Sc.B. in Computer Science and Mathematics; GPA: 3.95

Class of 2025

- CS Coursework: Algorithms, Machine Learning, Deep Learning, Algorithmic Game Theory (Grad.), Probabilistic Methods in Computer Science, Systems
- Math Coursework: Abstract Algebra, Graph Theory, Linear Algebra, Probability (Grad.), Real Analysis (Grad.)

Skills

- Languages: C/C++, Python, Java, SQL, Ruby, JavaScript, MATLAB, R
- Technologies: NumPy, Linux, Pandas, Git, TensorFlow, ReactJS, Sklearn, Ruby on Rails

EXPERIENCE

Software Engineer Intern, Screenshot, Inc.

May 2023 - August 2023

- Transactions team; revamped a RubyGem to implement a MySQL based data storage system using Rails Active Records; querying algorithm consolidates rows into nested hash for ease of use. Supports dynamic updates. Gem used company-wide, 15,000+ downloads.
- Managed internal Screenshot git repository, made several quality of life changes.

Developer, Full Stack at Brown

September 2022 - Present

- Build free web applications for different clients in the Brown community
- Frontend built with ReactJS framework, implemented a content management system and search functionality in the backend

Research Assistant, Brown School of Engineering

May 2022 - August 2022

- Applied signal processing and machine learning techniques on EDA/HRV data to detect anxiety in radiation oncology patients
- Used Python and MATLAB to perform time and frequency domain analysis, then crafted a k-means clustering based algorithm that achieves >97% accuracy

Undergraduate Teaching Assistant, Brown University

January 2023 - Present

- TA for Machine Learning; held weekly office hours of 20 students, developed course material for a class of 200+ students, graded exams and homeworks
- TA for Design and Analysis of Algorithms in Fall 2023

PROJECTS

Cryptocurrency Trading Bot

- Developed an automated, fully functioning program using Python to trade cryptocurrencies using the Alpaca Markets API. Strategies based on reinforcement learning and evolutionary algorithms, implemented with the DEAP framework

Ad Exchange Game

- Improved upon a Java-based automated agent to bid on campaigns and impressions in a simulated ad exchange. RL algorithm based on algorithmic game theory principles, saw a 200%+ increase in profit

Mock C Shell

- Created a basic C shell that supports system calls, built-in commands, file redirection, and a job control system. Handles multiple background processes and manages processes with signal forwarding

HONORS & AWARDS

Top 200 Putnam: Placed 167th amongst undergraduates nationally

3x USA Math Olympiad Qualifier: Placed 52nd nationwide, one of 250 qualifiers

USA Computing Olympiad Gold: Qualified with a perfect score in Silver division contest (C++)

Google Code Jam Round 2: Qualified by placing 831st globally in Round 1