Andrew Li

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Education

Northwestern University, McCormick School of Engineering and Applied Sciences — Evanston, IL
B.S. Computer Science, Integrated Sciences[1], Math — Sept 2022 - June 2026
Fall 2022 Honor Roll, GPA 3.94/4.00
Relevant Coursework: Imperative Programming, Functional Programming, OOP, C/C++, Systems

Skills

Programming Languages:	TypeScript, JavaScript, Java, React, Next.js, Node.js, Express.js, Python, C, C++, Racket, HTML, CSS, Sass, Julia
Spoken Languages:	English (native), Mandarin Chinese (native)
Other Technical Skills:	DigitalOcean, Herokuapp, Git, MongoDB, Processing, Matplotlib, Mathematica, Jupyter Notebook, AutoCAD, Fusion 360
Graphical Skills:	Adobe Photoshop, Adobe InDesign, Adobe Illustrator, Canva

Research

Kovacs Group: Silent Synapse Project — Evanston, IL
Undergraduate Researcher — December 2022 - present

- Employing MATLAB and Python to count silent synapses on neurons as a pseudo-replication study
- Planning use of computer vision with OpenCV to automatically recognize and process neuron data

Experience

National High School Debate League of China — Remote
Lead Software Engineer — December 2022 - present

- Employed MERN (Mongo, Express, React, Node) stack to engineer an unprecedented judge evaluation system for debate judges across China to improve judge quality and student education for over 3000 unique students.
- Hand designed simple authentication system and Express.js (TypeScript) REST API routes to make experience for non-technical debate staff seamless.
- Deployed set of automatic tools for debate tournament coordination between Tabroom and tournament group chats to eliminate preventable delays and trained tournament staff on usage.

Northwestern University Financial Technologies (NUFT) — Evanston, IL
Core Developer — October 2022 - present

- Built the NUFT quant structure and used modern developer practices of GitHub, CRs, and CI/CD pipelines.
- Employed Python websockets and multiprocessing queues to implement parallel processing for quant algorithms
- Deployed React (TypeScript) frontend to allow for non-technical user interaction with quant servers

Tsinghua International School — Beijing, China
Student Software Developer — September 2017 - June 2022

- Developed high school research conference's official website with over 1000 combined visitors.
- Implemented CloudFront CDN to deliver multimedia content to all users including those in China.
- Engineered Express REST API to connect to MongoDB database to handle complex registration system.

Personal Projects

SDRG TensorFlow Layer (TensorFlow, Python) — 2022

- Applied the Strong-disorder renormalization group (SDRG) technique to neural networks of 1D input using TensorFlow to decrease loss and increase accuracy

Q Learning Snake AI (Julia) — 2022

- Used the GameZero.jl Julia library and Q Learning principles to create a robot to play Snake

Personal Website (React, TypeScript) — 2022

- Engineered Next.js personal website with REST API to pull project portfolio from Airtable

Awards and Honors

CS 211 (C/C++) Piazza Top Student — Northwestern University
Made most contributions to CS 211 Piazza discussion board through answering and asking questions of varying difficulty. Winter Quarter 2023

Conrad China National Finalist — Conrad Challenge, China Chapter
School innovation award for unique pharmaceutical product design on behalf of entire high school — June 2021

High School Mathematical Contest in Modeling — HiMCM
Team captain for math modeling competition with prompt of predicting future droughts in Lake Mead. Honorable Mention. — Feb. 2021

[1]The integrated sciences major combines math, physics, chemistry, and biology into a single major