

# ANDREW LI

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## EDUCATION

**Northwestern University, McCormick School of Engineering and Applied Sciences** Evanston, IL  
B.S. Computer Science, Integrated Sciences<sup>1</sup>, Math Sept 2022 - June 2026  
**Fall 2022 Honor Roll**, GPA 3.94/4.00  
*Relevant Coursework:* Functional Programming, Object-Oriented Programming, Low-Level Programming

## SKILLS

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

## RESEARCH

**SDRG TensorFlow Layer (TensorFlow, Python)** 2022  
• Research project with TensorFlow to apply the Strong-disorder renormalization group (SDRG) technique to neural networks of 1D input to decrease loss and increase accuracy  
• Found that the SDRG technique decreases accuracy and exponentially increases time complexity

## EXPERIENCE

**National High School Debate League of China** Remote  
*Lead Software Engineer* December 2022 - present  
• Employed MERN 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 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

**Northwestern University IEEE Student Group** Evanston, IL  
*ML/AI Team* November 2022 - present  
• Part of team of five working on machine learning and AI development using modern AI frameworks including Tensorflow, OpenCV, Pytorch

**Integrated Science Program** Evanston, IL  
*Website Editor* November 2022 - present  
• Streamlined bug tracking to fix 20+ bugs for Northwestern department website using a Notion database  
• Created sample schedules for prospective students to increase attractiveness to Northwestern applicants

**Tsinghua International School** Beijing, China  
*Student Software Developer* September 2017 - June 2022  
• Single-handedly developed, published, and managed high school research conference's official, public-facing website and Model UN club's official conference 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

**Q Learning Snake AI (Julia)** 2022  
• Used the GameZero.jl Julia library and Q Learning principles to create a robot to play Snake  
**Scratch Card and PowerBall Console Game (Julia)** 2022  
• Created console game simulation of scratch card and PowerBall gambling games in Julia  
**Personal Website (React, TypeScript)** 2022  
• Engineered Next.js personal website with REST API to pull project portfolio from Airtable

## AWARDS

**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

<sup>1</sup>The integrated sciences major combines math, physics, chemistry, and biology into a single major