

# Nathan Yao

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## EDUCATION

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### Carnegie Mellon University

Pittsburgh, PA

*Bachelor of Science in Statistics and Machine Learning, Minor in Computer Science*

*Aug. 2023 – May 2027*

- Dean's List with High Honors
- Relevant Coursework: Intermediate Deep Learning (Grad), Telecommunications Networks (Grad), Parallel and Sequential Data Structures & Algorithms, Introduction to Computer Systems, Matrices & Linear Transformations

## EXPERIENCE

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### Software Engineer Intern

May 2026 – August 2026

*Applovin*

*Palo Alto, CA*

- Incoming Summer 2026, Ads Experience

### Software Engineer Intern

May 2025 – August 2025

*Broadcom Inc.*

*San Jose, CA*

- Automated testing workflows by developing and deploying a Flask Web Server with multiple endpoints that scrapes and engineers experiment data for a hardware component in Apple mobile devices.
- Developed a barcode logging system and GUI to capture item-location data into a MongoDB database while interacting with Google Cloud API, enabling efficient traceability and analysis across manufacturing steps
- Built a full-stack web application using HTML, Bootstrap, and JavaScript that allows users to input semiconductor data and generate build plan Excel files via a Python backend powered by Flask, Pandas, and OpenPyXL.

### Data Analysis Research Assistant

January 2025 – May 2025

*Professor Minkyung Kim, Carnegie Mellon University*

*Pittsburgh, PA*

- Conducted quantitative research and applied causal inference methods to analyze marketing strategies and public policy in the real estate sector
- Cleaned, merged, and standardized large-scale real estate Redfin datasets (12 million observations) from multiple structured batches for temporal and geographic data analysis

### Undergraduate Teaching Assistant

January 2026 – May 2026

*Carnegie Mellon University*

*Pittsburgh, PA*

- Courses: 10-707: Advanced Deep Learning (Grad), 36-401: Modern Regression
- Taught recitations and held office hours, breaking down complex concepts into clear, approachable explanations for students

## NCAA ATHLETICS: VARSITY MEN'S SOCCER

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**Awards:** Earned 2024 & 2025 UAA All-Academic Recognition and CMU Men's Soccer Most Improved Player of 2024

**Leadership Group:** Facilitated open cross-functional communication among teammates and coaches, fostering a collaborative environment and aligning diverse perspectives

**Soft skills:** Developed strong time management, pragmatism, organizational proficiency, and a consistent focus on impact-oriented results

## PROJECTS

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### PianoGen | *Python, Pytorch, AWS, Git*

October 2025 – December 2025

- Designed and trained a transformer audio generation model using SoundStream, incorporating Mel-Spectrogram loss beyond token-level cross-entropy optimization.

### Spotipy Wrapped | *Python, Numpy, Pandas, Scikit, Git*

July 2025 – August 2025

- Developed recommender systems using collaborative and content-based filtering techniques on Spotify metadata.

## TECHNICAL SKILLS

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**Languages:** Python, C, SQL, C++, Standard ML, JavaScript, HTML, R, Java

**Tools and Libraries:** PyTorch, NumPy, Pandas, Flask, Git, MongoDB, PostgreSQL, AWS

## ADDITIONAL INFORMATION

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**Nationality:** US Citizen; **Languages:** English (Native) and Mandarin (Bilingual)