

Haojie Cai

1 Irving Pl, New York, NY, 10003

hc3961@nyu.edu | (917) 245 3939 | <https://caihaojie.com> | <https://linkedin.com/in/haojiecai>

EDUCATION

New York University, New York

Sep. 2023 – (Expected) May. 2027

- **Candidate of B.A. Computer Science**
- **Selected Coursework**
 - **Graduate Level:** Introduction to Data Science, Deep Learning
 - **Undergraduate Level:** Computer Vision, Fundamentals of Machine Learning, Data Management and Analysis, Operating Systems, Basic Algorithms, Computer System Organization, Data Structures, Code!, Discrete Mathematics, Linear Algebra, Calculus III, Probability and Statistics

SKILL

- **Programming Languages:** Python, C, C++, Java, JavaScript, SQL
- **Tools/Frameworks & Libraries:** Git, Linux, PyTorch, Numpy, Pandas, Matlab, Seaborn, Node.js, MongoDB, Latex

EXPERIENCE

- **Grader at New York University | Grader (CSCI-UA 201 Computer System Organization)** Sep 2024 – Ongoing
 - Grade for assignments, quizzes.
- **Research at Shanghai Jiao Tong University | Research Assistant** Jun 2024 – Oct 2024
 - Contribute to the design and development of a benchmark for testing the software development ability of LLMs
 - Investigated the non-linear relationship between token size and the performance of multi-agent collaboration model, based on existing benchmarks and our new benchmark
 - Contribute to the development of a self-evolving multi-agent workflow for software development
- **Intern at NYU Shanghai | Learning Assistant (CSCI-SHU 210 Data Structures)** May 2024 – Jun 2024
 - Attended class and provided in-class support (e.g. co-facilitate in-class labs)
 - Held collaborative learning sessions and office hours to help students identify and address questions
 - Provided weekly feedback to instructors to report students' common questions and concerns, and sent weekly outreach emails to students
- **Summer Program at Cornell University | Participant** Jul 2022
 - Used searching and sorting algorithms to grab data from websites
 - Utilizing Python libraries for business analytics
- **Research Program of Sun Yat-Sen University | Student Researcher** Jun 2022 – Jul 2022
 - Participated in a project analyzing the characteristics of the fluctuations of agricultural prices under COVID-19
 - Collected the price data of agricultural products for 91 days before and after Jan 23, 2020, built mathematical models, and used Eviews for time series analysis
- **Research Program of Carnegie Mellon University | Student Researcher** Jan 2022 – May 2022
 - **Project:** Made an automatic watering machine, and published a research paper in [2022 IEEE International Conference on Applied Physics and Computing \(ICAPC\)](#)
 - **Data Processing:** Cleaned Data by using pandas, normalized the data using StandardScaler
 - **Machine learning:** Trained 70% of data using SVC, tested the result with the left 30%, visualized the result with an accuracy of 71%

PROJECTS

- [Recurrent JEPA for Trajectory Representation Prediction](#)
- [ShiftTrack: a faster R-CNN based model that detects and classifies object movements in image pairs](#)
- [Spotify audio-feature-based music genre classifier](#)
- [Without pretraining, a 1.5M-parameter Vision Transformer hits 63% accuracy on CIFAR-100 in 10 minutes of training](#)

INTERESTS

- PC Building, Esports (NYU Athletics Apex Legends Esports Player), Chinese Calligraphy, Saxophone, Piano