

Yinuo Xu

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EDUCATION

University of Pennsylvania

Aug. 2024 - May 2026

M.S in Computer and Information Science

New York University

Feb. 2021 - May 2024

B.A. in Computer Science | B.A. in Mathematics

GPA: 3.88/ 4.000

- University Honors Scholar, Dean's List for Academic Year (2020-2023)
- Relevant Coursework:
Algorithms, Machine Learning, Graphics, Computer Systems Org, OOP, Web Design, Computer Simulation, Data Management and Analysis, Applied Internet Technology, Parallel Computing, Numerical Analysis, Applied Cryptography & Network Security, Analysis, Discrete Math, Ordinary Differential Equations

RESEARCH EXPERIENCE

Research Assistant on Web Navigation | New York University

Sept. 2023 - Now

- Developed and optimized a Python script to automate the data extraction from **one million** files in ProQuest.
- Employed **selenium** for automated web navigation to retrieve up-to-date files for analysis.
- Leveraged **PyPDF2** library to programmatically read, extract, and manipulate text data from PDF documents.
- Utilized **pandas** for data manipulation and cleaning, ensuring the extracted data accurate and ready for analysis.

Research Assistant on Data Analysis | New York University Shanghai

April 2023 - March 2024

- Collected data in diverse formats, including pre-processing of CSV/JSON files by the pandas library.
- Performed web scraping and analysis using **BeautifulSoup** for efficient data extraction.
- Inspected and cleansed CUSMA data from 96 chapters, each containing over **50,000** data points, using **pandas DataFrame** and **numpy** for streamlined data manipulation and processing.
- Imported data and generated insightful visualizations using **matplotlib**.

Research Assistant on Bilateral Trade | New York University Shanghai

Aug. 2023 - Feb. 2024

- Conducted advanced econometric analysis on extensive U.S. import data using **Stata** for model optimization.
- Developed maximum likelihood estimation models, refining predictive insights for trade quality studies.
- Analyzed trade costs, creating visualizations to identify key trends for strategic decision support.

WORKING EXPERIENCE

Data Analyst Intern | Qihoo Technology Co., Ltd, China

June 2023 - Aug. 2023

- Organized the company's databases in terms of both traffic and customer dimensions for commercialization.
- Extracted specific **MySQL** statements from the company's wiki and organized them into Excel spreadsheets.
- Designed the prototype for the STARK one-stop data development platform aligned with Figma designs.

Teaching Assistant | New York University

Feb. 2023 - Now

- Served as a Teaching Assistant in Data Structures course for **two semesters** under Dr. Joanna Klukowska, and in Calculus course for **two semesters** under Dr. Silvia Espinosa Gútiez.
- Graded regular homework/assignments and provided thorough feedback to students.
- Worked with instructors to proofread and verify class materials, participated in staff meetings.

Data Analyst Intern | Huashi Private Equity Fund Management Co., Ltd, China

June 2022 - Sept. 2022

- Crafted and implemented bespoke trading algorithms, utilizing a multitude of programming languages to ensure seamless strategy execution.
- Employed SQL and Python to enhance database analysis, accomplishing data operation tasks and fostering data-driven decision-making processes.

SKILLS & PROFICIENCY

- **Programming Languages:** Python, Java, Javascript, C++, C, HTML, CSS, MATLAB, Stata
- **Frameworks & Libraries:** Numpy, PyTorch, Pandas, Matplotlib, TensorFlow, Node.js, Express.js
- **Technologies & Tools:** Selenium, SQLAlchemy, Sass, Jupyter Notebook, LaTeX, Mocha, Chai, Figma, Git
- **Databases:** MySQL, PostgreSQL, MongoDB, Neo4j
- **Languages:** English, Mandarin

SELECTED PROJECTS

Fingertips Position Estimation of a RobotHand bit.ly/FingeripsEstimation Nov. 2022 - Dec. 2022

- Used a guided learning method to predict fingertip locations on a robot hand using color and depth images.
- Applied a sequence of transformations to the images to improve the model performance.
- Customized a data loader and the pre-trained **resnet50** model to fit 12-channel input data.
- Used the **MSELoss** function as the train function to optimize the model, and trained over 70 epochs.
- Achieved **99.7%** localization accuracy and ranked 12% with performance on Kaggle competition.

Decider bit.ly/DMA-Decider Oct. 2022 - Dec. 2022

- Designed a **full-stack** web application to help people make decisions, including features such as user registration, login, password change, adding/selecting tasks on the whiteboard, and selecting a random number.
- Used **Sass, React, and Bootstrap** to optimize the main interface and customer input interface.
- Implemented real-time multi-user interaction and data retention on the website using **socket.io**.
- Used **Selenium** as the Automated functional testing to test password reset, login, add new items on the form, random number generator.

Simulation of Piano github.com/YinoXu/Piano_Simulation March 2023 - May 2023

- Utilized **MATLAB**, **finite difference methods**, and **second-order wave equations** to simulate piano strings.
- Applied **finite difference methods** and a **time-stepping scheme** to discretize the wave equation.
- Designed functions to handle the construction of complex musical compositions, demonstrating the practical applicability of the simulation model.
- Conducted validation by comparing the synthesized sounds against actual piano recordings, optimizing parameters to achieve a balance between simulation accuracy and computational efficiency.

EXTRACURRICULAR ACTIVITIES

Mentor | NYU Women in Science (WINS) cas.nyu.edu/wins.html July 2023 - Now

- Guided NYC public high school girls to participate in STEM-related learning and competitions.
- Planed events connecting students with eminent scientists in STEM fields, promoting learning and networking.
- Actively contributed to programs featuring women leaders in science and mathematics, inspiring and educating peers on the contributions of women in STEM.
- Provided academic and research mentoring to WINS Scholars, aiding their individual journey toward STEM.

Research Fellow | NYU Vertically Integrated Projects (VIP) July 2023 - Feb. 2024

- Actively participated in the **Google Cloud Career Readiness Program**, completing approximately 30 hours of training during the first half of the semester.
- Engaged in structured learning modules that cover various aspects of cloud infrastructure, application development, big data, and machine learning.
- Developed deep expertise in data analytics and business intelligence through case studies and real-time scenarios.