

Louis Zhao

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EDUCATION

- Columbia University in the City of New York** New York, NY
 - Master of Science in Biomedical Engineering, Specialization: Neuro Engineering* Expected Dec 2024
 - Bachelor of Science in Computer Science; GPA: 3.74* Sep 2021 – May 2023
 - Relevant Coursework:* Artificial Intelligence, Computer Vision, Natural Language Processing, Databases, User Interface Design, Human-Centered Design and Innovation, and Web App Development
- Brandeis University** Waltham, MA
 - Bachelor of Arts in Computer Science* Aug 2018 – May 2021

EXPERIENCE

- Mortimer B. Zuckerman Mind Brain and Behavior Institute at Columbia University** New York, NY
 - Research Assistant, supervised by Professor Tom Maniatis and Dr. Erin Flaherty* Sep 2023 – Present
 - Biomedical Research in Wet and Dry Lab Environments:** Engage in the research of neuro diseases such as autism within a wet lab context while applying Python for the purpose of experiment data analysis.
- Research Computing Services Lab at Columbia University** New York, NY
 - Research Assistant, supervised by Professor Junfeng Yang and Dr. Yaniv David* Jan 2023 – May 2023
 - Computational Research and Open Source Contributions:** Enhanced the existing Python codebase that helps open source communities on Github to regularly upgrade external packages, implementing graph visualizations and delivering comprehensive reports to 3 open-source projects.
 - Data Analysis and Automation:** Automated and optimized data processing and analysis using Python to extract valuable insights and generate human-readable tables from system output, reducing the manual effort by 90%.
- echo3D** New York, NY
 - Software Engineering Intern* May 2022 – Aug 2022
 - Web Development:** Developed a web-based augmented reality (AR) game using JavaScript and Python, achieving a 30% faster rendering speed and 70% reduction in data storage.
 - iOS Development:** Built an iOS AR application using Unity and C#. Leveraged echo3D API to enable researchers to interactively explore neuroscience models such as brain and spinal cord, driving an increase in educational applications relevant to pharmaceutical and biotechnological research needs.
- Changing Room** New York, NY
 - Software Engineering Intern* May 2022 – Aug 2022
 - Chrome Extension:** Enhanced Chrome Extension by deploying user-friendly technologies such as Svelte framework, JavaScript, and Python. Implemented 5+ new features to facilitate user experience, such as displaying overall ratings and recommendations when visiting unsupported brand websites. Achieved a 40% faster loading time for improved performance.
 - Web Development:** Enhanced the website using Python, JavaScript, and PostgreSQL. Accomplished 10+ new features, fixed over 20 bugs, and reduced computing time by 30%. Improved documentation and comments to make the code easier to understand and maintain.
 - Agile Development:** Structured ongoing improvement by delivering new features based on user requests. Implemented an average of 2 new features per week, ensuring products met evolving needs and preferences of its users. Adapted to changing requirements and worked within an iterative development approach.

LEADERSHIP & PROJECTS

- Columbia Engineering Graduate Student Council:** Department Representative of Biomedical Engineering and Member of the Budget Committee.
- Paws and Tails:** Led a team of 3 to develop a web platform connecting pet breeders with potential customers. Achieved 1000+ user activities and 5 minutes average engagement time in the first three month.

SKILLS

- Programming Languages:** Python, Java, SQL, HTML/CSS/Javascript (Web Development), Ruby, C
- Technical Skills:** Wet Lab Research, Dry Lab Data Analysis, Database Management, Project Management, Microsoft Office