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*

Columbia University in the City of New York — New York, NY

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 collaborative biomedical research within a wet lab context while applying Python for the purpose of experiment data analysis.

Columbia University Research Computing Services Lab — New York, NY

Research Assistant, supervised by Professor Junfeng Yang and Dr. Yaniv David — *Jan 2023 – May 2023*

- **Research Skills and Open Source Contributions**: Investigated and optimized Python open-source projects' dependency upgrades problem using problem-solving techniques and research methodologies. Enhanced Upgradvisor system through Python programming, implementing visualizations and delivering 3 Pull Requests to open-source projects. Proficient in code contribution, collaboration, and leveraging open-source resources.
- **Data Analysis and Automation**: Automated data processing and analysis using Python to extract valuable insights from system output. Generated CSV tables of Pull Requests for supervisor review. Proficient in data analysis, scripting, and building efficient workflows that cut down time consumption 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, Python, A-Frame, and Three.js. Accelerated the loading speed by 30% and reduced the amount of space required by 70% compared to traditional game development. Created over 10 interactive features, designing the game more enjoyable to play.
- **iOS Development**: Built an AR app for iOS using Unity and C#. Leveraged echo3D API to develop an educational app that allows users to visualize and explore neuroscience models such as brain and spinal cord for learning purposes.
- **Collaboration and Communication**: Collaborated closely with engineering team to incorporate user feedback and prioritize new features in weekly sprints.

Changing Room — New York, NY

Software Engineering Intern — *May 2022 – Aug 2022*

- **Chrome Extension**: Conducted maintenance of a Chrome Extension 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.

SKILLS

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