

# Louis Zhao

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## EDUCATION

### Bachelor of Science in Computer Science

Expected May 2023

Columbia University, New York, NY

- GPA: 3.74
- Relevant coursework: Programming in Java, Data Structures and the Fundamentals of Computing, Linear Algebra, Discrete Math, Web App Development, Operating Systems, Software Entrepreneurship, Natural Language Processing, Advanced Programming, Fundamentals of Computer Systems, Computer Networks, Introduction to Databases, User Interface Design, and Programming Language and Translators

## SKILLS

**Proficient:** Python, Java, HTML/CSS/Javascript

**Prior Experience:** Ruby on Rails, C, OCaml, SQL, MongoDB, Neo4j

## EXPERIENCE

### Software Engineering Intern

echo3D, New York, NY

May 2022–Aug 2022

- Developed a WebAR game using Javascript, Python, A-Frame, and Three.js that has 10+ playable features with 30% faster loading time and 70% less space needed comparing to traditional game development.
- Constructed an AR application on iOS using Unity, C#, and echo3D API that allows users to visualize 3+ neuroscience models such as brain or spinal cord for educational demonstration.
- Partnered with the Engineering team and presented the progress in weekly meetings. Iteratively improved the product by finishing 3+ new feature requests weekly.

### Software Engineering Intern

Changing Room, New York, NY

May 2022–Aug 2022

- Maintained the Chrome Extension using Svelte framework, Javascript and Python by adding 5+ new features such as displaying overall ratings and recommendations when the user visits unsupported brand websites with 40% faster loading time.
- Enhanced the website using Python, Javascript, and PostgreSQL by adding 10+ features, fixing 20+ bugs, reducing the computing time by 30% and improving the documentation and comment coverage by 10%.
- Promoted communication between CEO, Software team, UI/UX team, and Data Engineering team and synthesized the Figma design, user feedback, CEO requests, and new spring tasks into tangible products.

### Software Engineering Intern

Elphi, Inc., Boston, MA

December 2020–January 2021

- Forged new features for the web application using React.js, Firebase, and Reactstrap such as allowing the mortgage lenders to view and manipulate borrowers' information with 20% better performance.
- Initiated and refined the documentation on Confluence for the Engineering team.

## PROJECTS

### Crust

Project Lead, New York, NY

Jan 2022–May 2022

- Designed a procedural programming language that embeds AWK functions using C-like syntax with a comprehensive Language Reference Manual. Directed code review, pull requests merging, and timeline management.
- Designed and programmed the compiler by using OCamllex as Scanner, Ocamllyacc as Parser, OCaml as Semantic Checker, C as external libraries, and LLVM as backend. Added support of various datatypes and operators like char, string, array, modulus, etc and 20+ awk and string functions.

### Learning American Sign Language

Project Lead, New York, NY

Jan 2022–May 2022

- Developed a web application using Python Flask, Javascript, and jQuery that allows users to learn the basics of American Sign Language in under ten minutes.
- Directed the team of 4 by mapping out the project timeline, resolving team communication problems, and assisting team members of technical difficulties.