

# Jonathan Xu

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## Skills

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**Languages** Python, C/C++, JavaScript, HTML/CSS, Java  
**Technologies** Git, Bash, Docker, Unix, AWS, GCP

**Frameworks** ReactJS, NodeJS, Heroku, PostgreSQL,  
GraphQL, React Native

## Experience

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### Stanford Sustain Lab 🐙

ASSISTANT RESEARCHER

Stanford, California

Sept 2022 - Dec 2022

- Will be conducting applied machine learning and artificial intelligence research to model global sustainability patterns

### Grynn

CO-FOUNDER

San Francisco, California

Aug 2021 - Apr 2022

- Raised **\$400,000** to build a **decentralized marketplace** to buy and sell excess pharmacy inventory between stores
- Conducted **80+ research interviews** with store owners, partnered with 6 pharmacies serving **15,000 patients**
- Designed and implemented an online marketplace using React, supporting queries across **50,000+ drug products**

### Hebbia Inc 🐙

FULL STACK SOFTWARE ENGINEER

San Francisco, California

Jan 2021 - Mar 2021

- Personally designed and developed the web dashboard from scratch using ReactJS and Antd
- **Increased search speeds by 50x** by implementing semantic document search using dense vector clustering
- Architected the PostgreSQL database schema, powering search over **250K documents**

### Whist 🐙

SOFTWARE ENGINEER INTERN

Boston, Massachusetts

Apr 2020 - Aug 2020

- **Reduced Azure costs by 70%** by automating resource management for virtual machines, disks, and users
- Revamped the PostgreSQL schema and implemented GraphQL APIs, **cutting query latency by 50%**
- Migrated the Flask backend webserver to a Heroku CI pipeline, **speeding up tests and deployment by 5x**
- Built a mobile application with **React Native & Redux** to enable container app streaming directly to Android & iOS

## Projects

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40+ HACKATHONS 🐙

### IYK 🐙

Feb 2021 - Aug 2021

- Connected clothing to the Ethereum blockchain using custom tamper-proof NFC tags
- Programmed NFC tags in C and designed tag claim flow supporting communities totalling over **8000 users**
- **Raised \$1.2M** from Backend Capital, Lattice Ventures and various angel investors

### POLYGON 🐙

Apr 2021

- Coded a video player using ReactJS and HTML Canvas that enables **novel interaction with text within video**
- Created a cloud pipeline that used FFMPEG, computer vision and speech to text to **process and serve 1.5TB of video**
- Collaborated with multiple YouTubers and received **\$50,000** in funding from Backend Capital

### NOISY 🐙

Jan 2021

- Developed a Discord + Telegram bot that generates music on the fly using the **OpenAI MuseNet** deep neural network
- Created the automated backend powering the live generation and playback of **15k songs** monthly to **200k+ users**

## Education

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### University of Waterloo

BACHELOR OF SOFTWARE ENGINEERING

4.0 GPA

Sep 2019 - Apr 2024 (expected)

Dean's Honor List, Cohort Academic Representative