

# David Xu

Student ◇ Programmer ◇ Maker

Columbia University Computer Engineering 2023 (B.S.)

## Professional Summary

Student and researcher with lifelong experience in programming, tinkering, & making. Excited to learn and explore, building on past experience to discover the future.

## Work History

### Software Engineering Intern (Core Development)

**Hudson River Trading, New York** (05/2022-08/2022)

- Sped up JSON parsing by over 25%, allowing for faster data access and comms
- Designed flexible high-performance materialized views on streaming tabular data
- Upgraded internal symbology infra to improve data accuracy and trade safety
- Improved debugging tools for analyzing raw data; detected many existing errors

### Software Engineering Intern (Prime Video)

**Amazon, New York** (07/2021 – 09/2021)

- Produced a new carousel for surfacing movies based on unexplored data sources

### Software Engineering Intern (Firmware + Networking)

**Anduril, Irvine, CA** (05/2021 – 07/2021)

- Designed networking daemon and firmware-level APIs for the Ghost 4 drone

### Research Mentor (Machine Learning + Computer Science)

**iResearch Institute, Remote** (06/2020 – 08/2020)

- Instructed and developed projects in AI/ML with high school researchers

### Researcher (Sensing + Human-Computer Interaction)

**SAIL, Case Western Reserve University, Cleveland, OH** (06/2017 – 06/2019)

- Engineered hybrid force and flexion sensors for smart gloves and prosthetics
- Devised a new method using inertial sensors for tablet-free art and tool tracking

### Hacker Mentor

**TeenHacks LI, Jericho, NY** (10/2018 – 04/2019)

## Experience

### Coursework (GPA: 4.22/4.33, Dean's List)

- Teaching Assistant for: Advanced Programming; Design Using C++ (w/ Stroustrup)
- Honors Data Structs and Algos; Parallel Functional Programming; Analysis of Algos
- Fundamentals of Computer Systems; Digital Systems Laboratory; Advanced Logic Design; System-on-Chip Platforms; Embedded Scalable Platforms
- Signals and Systems; Intro to Electrical Engineering; Circuit Analysis
- Operating Systems; Internet of Things; Creative Embedded Systems; Electronic Circuits; Advanced SWE; Applications Programming for Financial Engineering

### Extracurriculars

- Volunteer programmer for Columbia Food Pantry and COVID-19 Tech Innovation
- Columbia Robotics Electronics Lead; Formula SAE Electric Vehicle Telemetry Lead
- Columbia IEEE Co-President; Eta Kappa Nu President; Tau Beta Pi Inductee
- Research w/ Fermilab; Cofounder of Vybe Technologies (navigation wearables)

### Personal Projects [<https://davidxu.tech>]

## Accomplishments

- Intel International Science and Engineering Fair Finalist; Regeneron STS Scholar
- Modeling the Future Challenge Finalist; VEX Robotics World Championship Finalist
- MakeHarvard: Most Likely to Become a Unicorn; Best Hardware Hack

## Info

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linkedin.com/in/davidxucu

**Website:** davidxu.tech

**Location:** Garden City, NY

**Languages:** English, Chinese, Spanish

## Skills

Programming (since 2009)

Embedded Sys (since 2014)

Full-Stack Development

Machine Learning

PCB Design

## Specifics

C, C++, Rust

Python

HTML, CSS, JavaScript, WASM

Node.js, Socket.io

Angular, React, React Native

Java, C#, Scala, Haskell

MATLAB

STM32, ESP32, Teensy

Fusion 360, Inventor

Eagle, KiCad