

# SOPHIA ZHUANG

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## EDUCATION

### UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

GPA: 3.87/4.0

*B.S. Computer Science*

*May 2025*

- **Relevant Coursework:** Algorithms and Models of Computation, Artificial Intelligence, Data Structures, Computer Architecture, Probability & Statistics, Discrete Structures, Linear Algebra with Computational Applications
- **Skills:** Java, C++, Python, SQL, Swift, Javascript, HTML, CSS, React, NLP, ML, AWS, Maven, Docker, DBVis, Liquibase, Git, Figma, Bamboo, Spring, NextJS, Tailwind, JUnit, Mockito, Express, Axios, NodeJS, Flutter

## WORK EXPERIENCE

### LIBERTY MUTUAL INSURANCE - TechStart Intern

May 2022 - current

- Built Java application to process 2+ million messages from AWS Simple Queue Service
- Boosted SQS processor speed by 5 times through introducing batch process multi-threading application
- Coded and pinpointed Cloud Formation Template update saving \$15k on operational inefficiencies every cycle
- Engineered automated validation reports, database updates (MySQL, Liquibase), and unit tests with Agile practices

### BRINK - Software Developer with Hack4Impact

August 2022 - current

- Developing accessible voting guide nonprofit, utilizing React and Typescript and following WCAG AA standard
- Designed an optimized API interaction to reduce nonprofit expenditures and wrote HTTP requests

### FOUNDERS - Research and Development Engineer

Sep. 2021 - May 2022

- Improved registration form for student startup directory using React and connected user input to database
- Introduced scheduled event reminder function for Discord chatbot using Google Calendar API and Python

### MACHINE LEARNING RESEARCHER - Northwestern University

May 2020 - Aug. 2020

- Trained artificial neural networks to determine surface roughness of metals from data and images to 98% accuracy
- Visualized data using Python, cleaned data, and presented analysis in research poster at 300-person symposium

## PROJECTS

### SEARCH ENGINE WEBSCRAPER (NextJS, JS, React, Tailwind)

Jul. 2022 - Sep. 2022

- Created webscraper tool to help accumulate web searches into 1 search engine for Liberty Mutual Engineers
- Built backend API server using Express and NextJS framework and hosted site on Vercel

### NATURAL LANGUAGE PROCESSING MUSIC (Python, Flask, AI, NLP)

Jun. 2022 - Aug. 2022

- Made website that predicts emotions from speech user-input and translates into mood-specific Spotify Playlist
- Built NLP sentiment and emotion analysis model using NLTK library and implemented speech to text recognition
- Designed interactive and cross-device-compatible frontend using Figma, React, and Tailwind

### JANE STREET ELECTRONIC TRADING COMPETITION (Python)

Jul. 2022

- Developed trading bot to exploit ETF and ADR arbitrage in a simulated financial exchange on Amazon EC2

## EXTRACURRICULARS @ UIUC

### HACKILLINOIS

Sep. 2021 - current

- Direct and organize food, events, and mentors for 900+ students from 10 countries and 30+ states

### WOMEN IN COMPUTER SCIENCE - Workshop Lead

Sep. 2021 - current

- Manage team of 5 to create and teach workshops covering machine learning, MongoDB, React, Git, and APIs

### BOX PARTY - Inventor

Sep. 2021 - May 2022

- Won 2021 IDEA Innovation Fair with \$500 microgrant for building collaborative music sharing app using React