

# Zeyu Gu

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## EDUCATION

### Yale University

Master of Science in Computer Science

New Haven, CT

September 2022 - May 2023(Expected)

### Boston University

Bachelor of Arts in Computer Science

Boston, MA

September 2018 - May 2022

- GPA: 3.94/4.0
- Dean's List

## PROFESSIONAL EXPERIENCE

### Software Engineer Intern

June 2022 - August 2022

CertiK

Remote

- Took part in the **full-stack** development of SkyHarbor, a **NextJS** based web application that facilitates efficient smart contract auditing process
- Integrated the Slack and Discord Bot APP to SkyHarbor to support multi-platform client notification
- Contributed to the **UI, backend API, Slack and Discord bot** implementation for the client notification service
- Contributed to UI automated test suite using the **Jest** framework
- Worked on tasks that improve user experience, such as refactoring file upload logic for UI optimization and new feature pop-up notification

### Quality Assurance Engineer Intern

May 2020 – August 2020

ByteDance

Beijing, China

- Took part in API testing, test case design, and test script writing for an enterprise application
- Wrote automated API testing scripts in **Java** using **TestNG** framework, which could replace 50% of the manual testing process and identify major functional bugs
- API test scripts achieved 70% overall code coverage rate and 100% coverage rate for major API functions
- Wrote **Jenkins** Pipeline Script to implement automated testing continuous integration

### Software Engineer Intern

August 2019 – September 2019

Microsoft Asia-Pacific R&D Group

Beijing, China

- Designed and implemented a multi-functional chatbot service using **Python** and **WeChat Python SDK**
- Independently developed the WeChat chatbot, deployed to **Linux** server, and integrated **third-party APIs** to execute certain chatbot functions such as auto-reply, package delivery tracking, recipe searching and weather report
- Implemented user intent recognition by leveraging the Microsoft **LUIS** language understanding service

## TECHNICAL SKILLS

**Languages:** Python, Java, Javascript, Go, C, SQL, HTML

**Frontend Technologies:** React, NextJS

**Backend Technologies:** Express, Docker, Kafka, MySQL, MongoDB, AWS, Redis

**Machine Learning:** PyTorch, Numpy, Pandas, Matplotlib

**Testing:** Jest, Cypress, TestNG

## PROJECTS

### Graph Analytics With Flink StateFun | *Java, Flink, Kafka, Docker*

February 2022 – May 2022

- A simple graph analytics application built with **Flink Stateful Functions**
- Implemented a set of graph queries API that can be used to perform general graph analytics on connected temporal graphs
- Fully utilized the functionalities of **Flink Stateful Functions** and **Kafka** message queue to process streaming graph data and simplified application deployment using **Docker**

### Automatic Waste Detection | *Python, PyTorch*

February 2022 – May 2022

- A research oriented project based on the ZeroWaste dataset, exploring different object detection models and optimization techniques on waste material detection in images
- Explored and fine-tuned three major models: **YOLOv4**, **YOLOv5**, and **Dynamic R-CNN**
- Implemented optimization techniques like **Mosaic**, **Mixup**, **Dropblock regularization** etc. and significantly improved model performance
- Best result achieved **62.1 in AP**, **74.2 in AP50**, and **67.7 in AP75**, which was better than the result gotten by the original authors of the ZeroWaste paper

### Media Roulette | *NodeJs, PUG, MongoDB*

October 2020 – December 2020

- A web app capable of making playlist suggestions based on the weather information at the user's current location
- Implemented **OAuth-based** third-party sign-in function and backend logic for fetching Spotify Playlist
- Served as technical lead in the team and helped other team member with database setup and page content generation