

Ze Yuan (Gavin) Zhang

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EDUCATION

Rice University (2019-2022)

Houston, TX

Bachelor of Science in Computer Science

Relevant Coursework: Data Structures and Algorithms, Machine Learning, Computer Systems, Distributed Systems, Probabilistic Algorithms, Parallel Programming, Databases, Operations Research, Cryptography

GPA: 3.9 (Overall and Major), Cum Laude, President's Honor Roll

SKILLS

Programming Languages: Python, Java, C++, JavaScript, ChuckK, Solidity, MATLAB, SQL, Assembly

Tools: JUCE, Keras, OpenCV, Librosa, Numpy, Firebase, Flask, Express, React, Docker, Ethers, Hardhat

EXPERIENCE

Co-Founder & Engineer, ZipZap LLC

Houston, TX | Jan 2023 - Present

- Implementing frontend, backend, blockchain infrastructure for universal collateral-free NFT renting
- Designing patent-pending wallet forking blockchains, simulating, sending transactions to protect rentals
- Developing modular, auto-connecting Transparent Proxy smart contracts using Solidity, Hardhat, Ethers
- Creating Ethereum JSON-RPC compatible browser extension to connect any dApp to our wallets

Software Engineer Intern, MealMe Inc.

San Francisco, CA | May 2022 - July 2022

- Protected \$10,000+ USD of monthly profits by updating API scraping for over 10 delivery services
- Automated SkipTheDishes accounts creation by analyzing GraphQL endpoints and using AnyCaptcha
- Enabled and live-tested anonymous SMS and calls using SignalWire to connect users and drivers

Software Engineer Intern, Infobird Co.

Beijing, CN | May 2021 - Jul 2021

- Designed OCR server reading serial numbers using OpenCV, Paddle, Flask to automate quality assurance
- Improved accuracy by 45% on images with diagonal text using Canny and Hough transformations
- Improved overall accuracy from 75% to 90% by tuning PP-OCrv2 CNN using 2000+ images from clients

Research Assistant for Dr. Peter Varman, Rice University

Houston, TX | Feb 2020 - Aug 2020

- Researched Fair-EDF, a scheduler fulfilling the same percentage of requests from different clients
- Predicted SSD response times using regression tree with minimum split threshold of 20 in MATLAB
- Accomplished mean 15% error on YACSIM simulated SSDs
- Achieved fast training with 0.14s on a training set of 5000+ requests, 52000 observations/second

PROJECTS

Equalizer Plugin

Oct 2023 - Present

- Created audio equalizer with lowcut, highcut, peak filters compatible with all major platforms via C++
- Rendered spectrum analyzer and GUI using Fast Fourier Transform and JUCE
- Prototyping noise reduction with Spectral Subtraction, Wiener Filtering, Convolutional Encoder-Decoder

Simple S3

Aug 2022 - Dec 2022

- Designed distributed storage system following Amazon S3 API using master-worker nodes architecture
- Implemented horizontally scalable system with varying worker nodes and file replication using AWS, Flask
- Created responsive dashboard using React, ChakraUI to monitor system performance, health

Shell Hydraulics Stick-Slip Analysis

Jan 2022 - May 2022

- Analyzed Stick-Slip for Data Science Capstone; coordinated team of students, worked with Shell mentors
- Experimented with 300+ files using Detrended Fluctuation Analysis, Wavelet Transform
- Classified files for varying degrees, intervals of Stick-Slip with Fast Fourier Transform, Hampel Identifier

ChatApp

Dec 2021

- Implemented messaging app using model-view-controller and publisher-subscriber systems, Java RMI
- Designed, presented API with type-narrowing voted for class-wide (100+ students) usage
- Incorporated visitor and factory design patterns to allow processing of unknown message types

ADDITIONAL

Languages: English (native), Chinese (native), French (intermediate)

Patents: Limited Use NFT System (Serial 18/144,432) (Pending)