

# SAMUEL YUAN

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## EDUCATION

**The University of Texas at Austin** B.S. Honors Computer Science, BBA Canfield Business Honors May 2025  
Overall GPA: 3.86/4.0

## EXPERIENCE

**Roblox – Software Engineering Intern; San Mateo, CA** May 2023 – August 2023

- Orchestrated system to store and serve 500M+ searches from 150M users in CockroachDB through gRPC endpoint in .NET
- Pioneered chi-squared algorithm to detect trends from 40M+ daily searches, enhancing user insights from data warehouse
- Architected and implemented Spark, Hive, and Airflow-based system to generate and store trending search candidates daily
- Led migration from workstation to server garbage collection to decrease memory usage by ~5% and stabilize CPU usage

**Striveworks – Software Engineering Intern; Austin, TX** May 2022 – August 2022

- Constructed Golang microservice to analyze and report product dependencies, deployed on Kubernetes cluster with Helm
- Designed Kubernetes-in-Docker cluster to deploy local instance of microservice for testing, mocked out various features
- Wrote Python unit tests interfacing with various platform ML SDK functions and Amazon S3 using Pytest and Pandas libraries
- Created CI/CD pipeline jobs to pull in-development Docker images from private registry and test before deployment

**Otto – Founding Engineer; Remote** July 2020 – January 2022

*Replit Ventures-backed pet management startup integrating software with QR code pet tag to centralize pet data*

- Developed cross-platform mobile app with 600+ downloads and average rating of 4.4 stars using Flutter and GraphQL
- Composed efficient NoSQL schema to optimize user and pet data storage and retrieval in Google Firebase cloud database

## PROJECTS

**PicTag – Founding Engineer** December 2021 – Present

- Built AI-driven semantic search engine for mobile and web platforms leveraging CLIP model for image relevance using Flutter
- Engineered Golang API to create image vector embeddings from S3 bucket using AWS Lambda and SQS, stored in vector DB

**ParaFLAI – Lead Developer** May 2023

- Assembled PyTorch federated learning system to boost training speed and data privacy compared to traditional ML models
- Applied cloud compute VMs and GPUs to concurrently train classification model across network of decentralized devices

**CapsuleMap – Lead Developer** April 2021

- Programmed health-centric social media app leveraging Firebase and Google Maps SDK to display user location of entries
- Awarded \$11,000 in claimable credits and funding by the 1517 Fund to further develop application for public use

**VS Code GitHub Projects – Full Stack Developer** February 2021

- Released open-source VS Code extension providing real-time interface for GitHub Projects with 25,000+ total downloads
- Established persistent GraphQL communication by polling between multiple WebViews rendered by Svelte and GitHub API

## LEADERSHIP EXPERIENCE AND ACTIVITIES

**Undergraduate Computational Finance – Member** Spring 2022 - Present

- Curate market watches by integrating daily news insights and carefully researched company stock pitches and analyses
- Developed trading simulation with React, Socket.io, and Node.js to simulate creating a market around a given value

**Honors Business Association – Vice President of External Affairs (Fall 2022)** Fall 2021 – Spring 2023

- Led committee of 3 to organize various philanthropic events involving 30+ members to serve the local Austin community
- Organized food drive with honors program office collecting 25+ canned goods donated to the Central Texas Food Bank

**HACK Initiative – Co-Founder, Volunteer** Spring 2019 - Spring 2021

- Launched volunteer program at two nearby junior high schools to teach introductory programming to younger students
- Guided 50+ students in learning programming languages such as Java and JavaScript using interactive libraries such as p5.js

## HONORS

- Neo Scholar Finalist August 2023
- First Place at UT Computer Science Honors CritterFest AI Competition October 2021
- Second Place Project and Most Novel Hack at Citrus Hack Hackathon April 2021

## ADDITIONAL INFORMATION

**Programming Languages:** Go, Python, Java, JavaScript, TypeScript, Dart, C, C#, Rust, CUDA, SQL

**Frameworks and Platforms:** Docker, Kubernetes, Spark, Hive, Airflow, GraphQL, Node.js, .NET, React, Swagger, Pandas