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: 3.89/4.0

EXPERIENCE

Databricks – *Software Engineering Intern;* Mountain View, CA — May 2024 – August 2024
- Spearheaded TCP/HTTPS networking connectivity prober service to monitor health of 550+ critical cloud resources globally
- Established multitenant thread pool/worker model to efficiently schedule and execute 35K+ probes hourly across all shards
- Implemented dynamic self-onboarding schema and CLI with customizable Prometheus alerting and routing per probe

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
- Assembled 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

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

RESEARCH

UT NLP and Computational Linguistics Lab – *Undergraduate Researcher* — September 2024 – Present

UT Machine Learning for Systems Lab – *Undergraduate Researcher* — January 2024 – Present
- Lead effort to jointly learn decisions for distinct OS components to predict better scheduling and resource allocation policies
- Formulate contrastive learning encoder model to learn representations of OS system traces, e.g. CPU and cache features

National AI Institute for Foundations of Machine Learning (IFML) – *Undergraduate Researcher* — Nov 2023 – Feb 2024
- Applied Momentum Contrast encoder model to ESM2 LLM embeddings to detect residue-level protein sequence similarity
- Implemented Triplet model with InfoNCE loss to compare training with mined positive and negative pairs to MoCo model
- Integrated PyTorch models with preprocessed MSA dataset and evaluate similarity of aligned and non-aligned residues

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

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

HONORS

- Neo Scholar Finalist — August 2023
- First Place at UT Computer Science Honors CritterFest AI Competition — October 2021

ADDITIONAL INFORMATION

Programming Languages: Go, Python, CUDA, Java, JavaScript, TypeScript, Dart, C, C#, Rust, Scala, SQL
Frameworks and Platforms: PyTorch, Spark, Hive, Airflow, GraphQL, Node.js, .NET, React, Swagger, Pandas, Kubernetes