

Ashay Swadi

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EDUCATION

University of Texas at Austin, Turing Scholars Honors

B.S. in Computer Science and Minor in Business, GPA: 3.80

Austin, TX

May 2025

EXPERIENCE

IMC Trading

Software Engineering Intern

Chicago, IL

Jun 2024 - Aug 2024

- Worked on the Equity Options quoting team using **Java** and **SQL**
- Directly improved company profits by modifying quoting enabling rules, including adjusting quoting volume and duration based on intraday market feed
- Improved trades analysis by tagging IMC trades with new information related to quoting, allowing traders to more easily and efficiently analyze quoting strategies

Omphalos Lifesciences

Software Engineering Intern

Dallas, TX

May 2023 - Aug 2023

- Developed a sophisticated integrated development environment (**IDE**) using **Unreal Engine C++** for the company's proprietary programming language, **L++**, including designing the IDE's front-end, handling L++ program compilation and execution, and syntax highlighting; code deployed to production
- Implemented intuitive data visualization features using Unreal Engine simulation, enabling precise quantitative analysis of complex biological and chemical processes
- Led and coordinated efforts in writing seed grant proposals, aiming to secure **\$275,000** in funding

PayPal

Machine Learning Engineering Intern

San Jose, CA - Remote

May 2022 - Aug 2022

- Applied machine learning algorithms to improve data quality in PayPal's issue reporting and management system
- Developed custom **ensemble** ML model in **Python** for accurate completion and suggestions on incomplete user-submitted issues, achieving **~80%** accuracy in predictions for missing data; code in pipeline for production
- Developed **TF-IDF** and **BERT** based model in **Python** and UI in **HTML** to identify user-submitted issues that were previously fixed, helping avoid duplicate issue resolution efforts

University of Texas at Austin - Huth Lab

Undergraduate Researcher

Austin, TX

Feb 2023 - Present

- Conducting research aiming to reconstruct speech from fMRI-recorded brain signals using machine learning under Dr. Alexander Huth, with potential applications for restoring communication abilities individuals who are unable to speak
- Designed and implemented an ML algorithm using a **regression-based model** and an **audio codec** to generate speech segments from brain recordings, accurately recovering acoustic properties such as intonation, emotion, and intent

PROJECTS

Sharded Key-Value Store

Spring 2024

- Designed and implemented a sharded, fault-tolerant key/value storage system in **Java** using Paxos-based consensus to ensure linearizability and high availability across distributed servers
- Implemented shard reconfiguration protocols, enabling load balancing among replica groups

Preemptive Multithreading

October 2022

- Designed and implemented multi-core multithreading with preemption in the kernel in **C++** using various synchronization primitives, including blocking and semaphores

ADDITIONAL

- **Relevant Coursework (Honors, In-Progress):** Machine Learning (H), Algorithms (H), Operating Systems (H), Data Structures (H), Programming Languages (H), Computer Architecture (H), Distributed Computing, *Neural Networks*
- **Organizations:** UT Programming Contest Club, Turing Scholars Students Association, Texas Rocket Engineering Lab
- **Programming Languages and Skills:** Java, Python, C++, C, SQL, HTML/CSS, ARM Assembly, PyTorch, Git
- **Competitive Programming:** USA Computing Olympiad Gold Division, Max. Expert Rating on Codeforces (**Java**, **C++**)