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Advay Muchoor

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Education

University of Michigan, College of Engineering — Ann Arbor, MI
Bachelors of Science in Computer Science; GPA: 3.95/4.00 — *Sep 2019 – May 2023*

- **Previous Courses:** Operating Systems (EECS 482), Advanced OS Projects (EECS 498), Compiler Construction (EECS 483), Networks (EECS 489), Machine Learning (EECS 445), Foundations of Computer Science (EECS 376), Computer Organization (EECS 370), Data Structures and Algorithms (EECS 281)
- **Current Courses:** Distributed Systems (EECS 491), Formal Verification of Systems Software (EECS 498)
- **Honors and Awards:** Deans Honors List (all semesters), EECS Scholar, Two-Time MSAS Hackathon Winner

Work Experience

Citadel Securities — Chicago, IL
Software Engineer Intern — *June 2022 - Aug 2022*

- **Low Latency Team:** Working on the strategy behind a low latency trading system running on specialized hardware
- **Alpha Research:** Developing a gradient boosted tree model to better predict price changes, augmenting research pipeline to support the ingestion of new data, and monetizing model to compare performance to predecessor

NVIDIA — Santa Clara, CA (Remote)
Software Engineer Intern — *Jan 2022 - April 2022*

- **Performance Sweeps:** Assisted NVIDIA's industry leading submission to MLPerf-Inference 2.0 by running performance sweeps across different machines and modifying configurations to yield a 20% increase in perf per watt
- **Triton Harness Design Proposal:** Proposed new design to unify duplicate Triton Harnesses, resulting in 1000+ saved LOC and a more maintainable and clean class structure
- **Triton Harness Implementation:** Implemented Unified Triton Harness using modern C++ 17 features, created team-wide C++ style guide, and verified that new harness had no performance regressions

Belvedere Trading — Chicago, IL (Remote)
Software Engineer Intern — *June 2021 - Aug 2021*

- **Exchange Simulator Optimization:** Identified bottlenecks in exchange simulator and developed solutions in React and Python that reduced startup time from 15 min to 60 sec and memory usage on startup from 5GB to 600MB
- **Thread Usage Refactor:** Refactored C++ code that used proprietary busy-looping High Priority Threads to instead use thread-safe concurrent processing queues and an event driven architecture

IHS Markit — Southfield, MI (Remote)
Data Analytics Intern — *June 2020 - July 2020*

- **Model Construction:** Built machine learning model to forecast consumer spending that operated at an 85% accuracy rate and was subsequently integrated into a product delivered to hundreds of clients

Campus Experience

U of M EECS Department — Ann Arbor, MI
Instructional Aide, EECS 482: Operating Systems — *Aug 2021 - Present*

- **Course Topics:** Covered topics such as multithreading, virtual memory, file systems, and networking
- **Teaching:** Wrote exams, helped design discussion curriculum, held weekly lab sessions, answered questions on online class forum, and held office hours to develop and reinforce student understanding of key Operating Systems concepts

U of M Athletic Department — Ann Arbor, MI
Software Developer — *Aug 2018 - Dec 2020*

- **Dashboard:** Created interactive dashboard that allowed teams to locate significant trends in player wearable data and incorporate analytics in daily protocols, laying groundwork for future tech integration within Michigan Athletics

Projects

Pursu: Developed an automated email analysis tool that helped 100+ students manage their recruiting journey
Operating System Projects: Created thread library, virtual memory pager, and networked file system using C++

Skills

Languages: C++, Python **Technologies**: Flask, AWS