Hyeonjoon Park

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EDUCATION

University of Michigan **Ann Arbor, MI**

Bachelor of Science in Engineering (BSE) in Computer Science *Aug 2019-*

Relevant Coursework: Programming and Data Structures, Foundation of Computer Science, Computer Organization

TECHNICAL PROJECTS

University of Michigan **Ann Arbor, MI**

Optimized Graph Processing Tool *Jan* 2023 - April 2023

- Implemented a multi-mode graph computation tool in C++, supporting both Minimum Spanning Tree (MST) and brute-force permutation search modes using custom data structures and STL containers.
- Designed efficient I/O parsing, command-line option handling, and numerical precision formatting for robust and user-friendly command-line execution.
- Developed a coordinate-based graph model with L2-distance calculations and Kruskal's algorithm for MST, alongside a recursive permutation generator for exhaustive path evaluations.
- Utilized smart memory management (e.g., reserve()) and modern C++ idioms to optimize performance across large graph datasets.

Set-Associative Cache Simulator *Jan* 2024 - May 2024

- Engineered a parameterized cache simulator in C with support for direct-mapped and N-way set-associative configurations, block sizes of 1–4 words, and write-back with write-allocate policy, integrated into an LC-2K pipeline simulator.
- Implemented LRU (Least Recently Used) eviction logic and dirty bit tracking, enabling realistic simulation of cache behavior under memory-intensive workloads with accurate instruction/data differentiation.
- Developed and executed detailed test harnesses using controlled trace inputs and regression analysis to validate correctness across multiple configurations and edge cases, including handling of alignment, tag comparison, and cache miss penalties.

LEADERSHIP EXPERIENCE

Neurotrade **Gyeonggi-do, South Korea**

Team Lead - *Portfolio Optimization & Forecasting* *Oct 2024 - Present*

- Led a 7-member team to develop a hybrid AI trading framework combining LSTM time-series models and LLM-driven sentiment analysis for real-time portfolio strategy.
- Proposed and trained LSTM models on OHLCV data with walk-forward validation, achieving 64% directional accuracy on 1-day returns; optimized using RMSE and MAPE.
- Built a custom RAG pipeline using semantic search (FAISS + GPT embeddings) to extract financial insight from FOMC transcripts, earnings reports, and news, improving signal context and model interpretability.
- Fine-tuned GPT-based sentiment scoring via zero-shot classification and cosine similarity to enrich feature sets for asset selection and volatility forecasting.
- Established a collaborative ML workflow via GitHub Projects, weekly sprint reviews, and strict code review practices, fostering a high-ownership, performance-driven culture.

SKILLS

Programming Languages: C, C#, C++, Python, Javascript

Libraries and Frameworks: PyTorch, NumPy, Pandas, React, Django, MySQL

Languages: English, Korean

ACTIVITIES

Michigan Hackers *Sep 2022 - May 2024*

Michigan Investment Group *Sep 2022 - May 2024*