+1 (607) 379-4576 **Yuet Ming Leung** attilusleung@gmail.com

Experience

Software Engineer - Jump Trading *Chicago, IL* Aug 2022 - Present

- Built the initial design and skeleton for a **high throughput, low latency trading system** that interacts in **modern C++ (C++23)** that listens to **billions of packets daily** and makes trading decisions using **custom ASIC hardware**.
- Worked in a **brand new core technology team** to solve a new **hardware trade** that has **never before been done within the firm**.
- Optimized the trading system using **perf**, **magic trace** and other custom metrics with a focus on improving the performance **sub-microsecond** decision loops.
- Created a **large-scale distributed simulation analysis pipeline** that analyzed simulation accuracy for most historical simulations within the firm, categorizing errors and visualizing them in a **custom web dashboard** for analysis and triaging bug fixes, eventually **achieving 99.9% simulation accuracy** for all historical traffic within certain venues.
- Optimized prediction pipelines to reduce memory usage and improve compute utilization by converting existing pipelines to use **pyarrow IPC streams** and performing computations in batches, **reducing memory usage per node by 10x** and job queue times for better throughput
- Enhanced the reliability of a major **command and control backend used by all teams** within the firm by increasing visibility in errors and performance through **metrics** using **telegraf**, **redpandas** and **clickhouse**.
- Addressed errors and performance issues revealed within the **backend server** and the complementary **C++ / Python** , leading to a **26x decrease in on-call issues**.

Software Engineer Intern - Jump Trading *Chicago, IL* Jun 2021 - Aug 2021

- Converted an data pipeline stage to use **distributed worker pools** within a **high performance computing (HPC) grid**, reducing pipeline runtime from **days to hours**.
- Implemented telemetry collection to **collect usage metrics** within a **core internal C++ library**

Software Engineer Intern - Meta *Remote* Jun 2020 - Aug 2020

- Extended a **chaos testing test suite** using **UNIX tools** and **Python** to guarantee reliability of services even in the presence of system failures to **prevent potential outages**.
- Implemented an **alerting system** within the chaos testing framework that logs infrastructure failures to **MYSQL** and notifies developers such that outages can be prevented before they happen.
- Designed and implemented a **web UI** to show all detected infrastructure issues using **PHP**.

Education

Cornell University *Ithaca, NY* Aug 2018 - May 2022
Master of Engineering in Computer Science
Bachelor of Arts in Computer Science

Projects

Cornell University Autonomous Underwater Vehicle *Ithaca, NY* Oct 2018 - Aug 2022

- **Lead a team of 10-20 people** that focused on **AI software improvements** for the submarine and general competition strategy
- Developed **computer vision modules** and **mission reasoning systems** for the vehicle using a custom robotics stack built from scratch within a Docker container on an **Nvidia Jetson**
- **Placed 5th** in AUVSI's 2019 Robosub Competition

Programming Languages: C++, Python, Rust
Software: pyarrow, telgraf, redpandas, polars, pandas, clickhouse, SQL, Docker