Benedict Ozua

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EDUCATION

Carnegie Mellon University   **May 2025**
- B.S. in Computer Science, Concentration in Computer Systems | GPA: 3.5/4.0
- **Relevant Coursework**: Operating System Design and Implementation, Networking and the Internet, Parallel Computer Architecture and Programming, Introduction to Computer Security, Artificial Intelligence: Representation and Problem Solving

EXPERIENCE

Software Engineer Intern   **June 2024 – August 2024**
Citadel Securities   *Miami, FL*
- Wrote command line tooling to deliver connectivity information from the internal message bus system to SREs in C++, Python, SQL, Pandas
- Reduced diagnosis time for message bus incidents from 20 minutes to 2 minutes
- Designed data pipeline for delivering and pulling metric data from SQL database handling 10M+ data metrics in an automated tool
- Migrated observability data flow from existing distributed key store to Clickhouse DBMS for reduced cluster load and write queries on critical components

Software Engineer Intern   **May 2023 – August 2023**
Roblox   *San Mateo, CA*
- Developed an animated loading screen for 2M+ Roblox Studio users with minimal latency via C++, Qt
- Optimized image availability by caching 100+ images with an LRU policy to reduce API calls
- Deployed performance metrics to measure millisecond difference between load screen popup time of an old load screen and the new load screen
- Persisted cached images in Roblox studio sessions with cloud storage to decrease loading screen buffering

Research Assistant   **June 2022 – August 2022**
Carnegie Mellon University   *Pittsburgh, PA*
- Developed Byzantine server implementation to disrupt consensus in MIT's CBDC project utilizing docker, C++, Asio, and NuRaft
- Wrote a Common Vulnerabilities and Exposure report (CVE) to showcase a vulnerability in Ebay's Nuraft
- Benchmarked byzantine implementation of NuRaft to visualize effects on a distributed environment

PROJECTS

Instagram Post Formatter | *Python, Google Cloud, App Script*
- Automated converting Google form submissions to instagram posts using Google Drive and Google Cloud for a CMU Instagram page of 3K+ followers
- Hosted flask backend with and stored potential posts to continuously process forms using Google App Engine on Google Cloud
- Decreased the time to create a post from 10 minutes to 30 seconds

Dinic's Networking Parallelism | *C++, OpenMP, CUDA*
- Achieved 8x speedup on sequential graph implementation with CUDA implementation
- Created algorithms and testing frameworks to test performance of different max flow implementations
- Utilized OpenMP to achieve 6x speedup on graphs containing 50K nodes and 1M edges

TECHNICAL SKILLS

Languages: Python, C, C++, Go, Ocaml, SML/NJ, SQL, JavaScript, Typescript, HTML/CSS
Technologies: Google Cloud, ETCD, Docker, Pandas, CUDA, AWS, NuRaft, Asio, WebSockets, Qt, Z3, Linux