Mohammed Al-Jawaheri

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EDUCATION

Carnegie Mellon University
B.S. in Computer Science, Concentration in Computer systems   May 2023

Relevant Coursework: **GPA: 3.93/4.00**
                                                                                        Dean's List (8/8 semesters)

15-410 - Operating Systems Design & Implementation
15-411 - Compiler Design & Implementation
15-440 - Distributed Systems
15-441 - Computer Networks
15-445 - Database Systems

WORK EXPERIENCE

Software Engineer Intern   May 2024 - Aug 2024
Openstack swift Nvidia
- Landed patches that were approved by project nvidia technical lead and merged upstream
- Added Quota support features that prevent operators from cluster abuse
- Added modern recon features for container reaper
- Currently improving concurrency in the container sharder daemon

Backend Engineer   Sep 2023 - Feb 2024
Hungry Mushrooms Game studio
- Architected a backend migration for three games from previous backends/adhoc firebase storage
- Overlooking live migration of player nosql data to cockroachdb

Teaching Assistant   Aug 2023 - Present
Carnegie Mellon University
- Graded and created exams for undergraduate courses on Computer systems, Operating systems and Algorithms

PROJECTS AND ACHIEVEMENTS

mjawaheri.com: Personal Website | *NextJS/ChakraUI*   Apr 2023 - Present
- Personal portfolio built using Next 14
- Uses ChakraUI for smooth animations & page transitions

HyperOS: OS & hypervisor | *C/x86*   Aug 2022 - Jan 2023
- Built a fully pre-emptive multi-tasking kernel on real x86 hardware
- Supported Paravirtualization interface for running guest kernels
- Implemented user-space multi-threading, and user-space hardware exception handling
- Packaged with custom made user-space thread library and synchronization primitives

Connect4 | *Javascript (Matter.js), Python (django)*   Mar 2021 - May 2021
- Real-time online turn based connect-4, physics simulated pieces
- Django 3.x backend, Django channels for websockets

C0++: Type inferring optimizing compiler | *C++17, Flex/Bison*   Aug 2021 - Jan 2022
- Built a compiler for a C-like language targeting x86-64
- Implemented optimizations such as partial redundancy elim. and str. reductions
- SSA-based, competitive with GCC -O1 on many benchmarks

HONORS AND AWARDS

Andrew Carnegie Society Scholar Recognition by CMU to 40 exemplary students
Qatar Campus Scholar Recognition given by CMU-Q given to one graduate of each major
Best Freshman Team prize at CarnegieApps Hackathon 2020