Edwin J. Ortiz

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EXPERIENCE

Vertically Integrated Projects Program – High Performance Computing   Newark, DE

Associate HPC Developer   2016 – 2018

- Redesigned and refactored sequential programming algorithms into parallel programs to drastically improve performance by up to 20x efficiency.
- Worked with chemistry department to help improve a 3D Molecule Simulation named NAMD.
- Earned proficiency in OpenACC, C, GitHub, refactoring and parallelization.

Cloud Cryptography: Web Development   Newark, DE

Intern Web Developer   2019

- Implemented and created web applications with a back-end database using JavaScript, HTML and CSS.
- Created projects that grants online communication via database with a friendly UI, allowing seamless updates to the database backend that can be updated in real time from the front-end application.
- Designed front end applications for clients in a collaborative team environment

University of Delaware   Newark, DE

Computer IT Site Assistant   2016 - Present

- Troubleshooting and diagnosing various hardware and software issues with customer computers.
- Create documentation of all customers interaction and PC components through a ticketing software.
- Communicate to customers about their troubleshooting status and report key milestones to all clients.

PROJECTS

Parallelizing Chemical Shift Predictions with OpenACC and C

- Achieved a speed-up of over 20x via reprogramming parallelization with OpenACC, the biggest achievement being a decrease in rendering time from 11 hours down to 10 minutes.
- PPM_One is used for chemical shift prediction to accurately predict chemical shifts in protein structures, which is essential for drug discovery for cures to diseases such as the HIV virus.
- Originally, PPM_One was too slow to be used in a reliable amount of time, the high end being upwards of 20 hours.
- Refactored inefficient coding practices, proceeding to parallelize code to work on multiple threads and cores on a CPU, then moved on to a GPU where we saw drastic improvements.

More project showcases are available on my website and GitHub.

TECHNICAL SKILLS

Languages: Python, JavaScript, HTML, CSS, C++, C, Java, OpenMP, MIPS, SQL, Dr. Racket
Operating Systems: Windows 7, 8, 10, Linux, Mac OS, Unix
Software Technology: GitHub, Eclipse, SQL Developer, Google Firebase, VMware, AnyConnect VPN, Microsoft Office, Virtual Box

EDUCATION

University of Delaware   Newark, DE

College of Engineering   **Graduation**: February 2020

Bachelor of Science in Engineering

Major: Computer Engineering | **Minor**: Computer Science

Relevant Coursework: Parallel Programming; Data Structures; Operating Systems; Databases; Computer Networking; Software Engineering; Computer Systems Information; Computer Science I, II; Digital Systems; Microprocessor Systems; Calculus I-III; Engineering Mathematics I, II;