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Oscar J. Abreu

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EDUCATION

New York University **Brooklyn, NY** **May, 2024**
M.S. in Electrical & Computer Engineering
Bridge to Tandon School of Engineering (Awarded Jun 2022)
- **Coursework** - Object Orientation, Data Structures and Algorithms, Operating Systems, Computer Networking, Foundations of Computer Science, Real-Time Embedded Systems.
- **Awards:** Merit Scholarship - Aug 2022

Binghamton University **Binghamton, NY** **May, 2021**
B.S in Biochemistry
- **Coursework:** Linear Algebra, Calculus I-III, Physics I-II, Research and Writing Rhetorically.
- **Awards** Dean's List - Spring 2019 - Spring 2021

TECHNICAL EXPERIENCE

Projects
- **Contruit** Web-based desktop calendar & habit tracker using Electron, Postgres, Node and TypeScript/JS/HTML/CSS.
- **Syllabelius** - Online pedagogical repository of graded piano music, organized by technical focus. JS/HTML/CSS
- **Pathfinding Visualization Algorithm** - GUI that allows you to visualize pathfinding algorithms such as Djikstra, A* Search, BFS and DFS. Written with React/HTML/CSS.
- **Reflectance Oximeter** - Implemented reflectance oximetry to detect real-time spO2 concentration on human patients. If spO2 falls the embedded device sends an alert via an API. MAX30100 HRSM, STM32F429 Microcontroller, programmed in C/Assembly.
- **I/O, Caching, and Multithreading Performance** - System Performance Monitor that outputs a graph measuring raw performance by input size per 10seconds between cached/non-cached memory, multi-threaded implementations of read/write operations, and system call processes in Linux. C++.

LANGUAGES AND TECHNOLOGIES

- **Languages**: C++, Objective-C, Python, TypeScript. **Tech & FW**: HTML, CSS, Node.js, React.js, PostgreSQL, Electron.

PROFESSIONAL EXPERIENCES

Medical Assistant **September 2021 - December 2021**
United Health Services - Binghamton, NY
- Assisted physicians with various procedures, took vital signs, relayed instructions to patients; provided pertinent information; Managed charts and fulfilled patient care responsibilities including organizing patient flow; accompanying patients with procedures; assisting patients with transferring; and processing specimens.

Biochemistry Research Assistant **May 2017 – May 2018**
Innovative Technologies Complex - Department of Protein Biochemisty - Dr. Brian Callahan
- Responsible for the initiation, and completion of enzymatic studies on Hedgehog Protein's (SHH) catalyzing activity.
- Effectively communicated weekly reports of research progress, including insights and pitfalls in experiment design.

EXTRACURRICULAR EXPERIENCES

Piano Teacher/Event Coordinator **September 2016 - August 2019**
Piano Society - Binghamton, NY
- Planned & organized monthly general interest meetings to address the needs of the organization and its participants.
- Instructed beginner/intermediate students on the fundamentals of music theory and piano technique.

Volunteering
- **Lourdes Hospital - Emergency Room** (Jun 2017 - Mar 2020) - Assisted ED staff by communicating with patients and families, running errands, answering call lights, giving directions, assisting with transportation of patients and specimen.
- **Southern Tier - Big Brother Big Sister** (Jun 2019 - Mar 2020) Mentored youth by provide guidance, motivation, emotional support, and role modeling.
- **United Health Presbyterian Church** (Jun 2020 - Mar 2020) Served food to disadvantaged members of the local community, and helped staff prepare food and clean.