

# MAMERTO CRUZ

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**B.S. in Biomedical Engineering / Minor in Computer Science, Math, Chemistry / Cum Laude**

May 2023

*University of North Texas, Denton TX*

**Technologies:** Windows and MacOS, MS Word, Excel, PowerPoint, C++, Java, Python, VB, and MATLAB

**Related Coursework:** Biomedical Modeling, Biomedical Data Analysis, Biomedical Signals, Computer Science

## EXPERIENCE

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### UT Southwestern - Dallas, Texas

Student Research Fellow

June 2022 - August 2022

- Developed a Graphical User Interface Application using MATLAB for Conditional Colocalization Analysis.
- Established an algorithm to automatically display and plot colocalization results.
- Implemented various techniques using the MATLAB programming language.

### La Notte / Suffield Country Club - East Windsor / Suffield, Connecticut

Banquet Server / Dishwasher

July 2018 – June 2019

- Addressed any concerns or complaints quickly to promote customer happiness.
- Prepared salads and appetizers to assist kitchen staff.
- Cleaned, sanitized, and organized food speed racks, bins, and dry storage racks to keep food storage areas neat.
- Walked among tables and fulfilled customer requests.

### Powder Mill Middle School - Southwick, Massachusetts

Summer Custodial Staff

June 2017 – August 2017

- Disposed of trash, cleaned, and organized classrooms.
- Protected floors and fixtures with the correct application of solutions and use of cleaning equipment.
- Handled, used, and stored hazardous chemical cleaners correctly to prevent injury.

## PROJECTS

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### Variable Independent Pressure System

Senior Design Project

September 2022 - May 2023

- Designed an apparatus that simulates the internal conditions of the body that can be used when developing medical devices.
- Implemented a pressure measurement system using two pressure transducers and an Arduino microcontroller.
- Generated an application in Python that displayed the pressure values of the inlet and outlet of the system and warned the user of pressure drops in the system.

### Conditional Colocalization Graphical User Interface

Student Research Fellow

June 2022 - August 2022

- Built an application using MATLAB that helped scientists analyze microscope images.
- Helped to reduce the chances of user error caused by incorrectly inputted data.
- Created an algorithm that read in multiple files and automatically displayed and plotted the results.

## VOLUNTEERING

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**Altar Server - St. Catherines of Siena - Springfield, Massachusetts**

February 2011 - June 2019

**Volunteer - Friends of the Homeless - Springfield, Massachusetts**

September 2016 - April 2018