

SIR LAURENCE CRUZ-WALTON

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EDUCATION

Georgia Institute of Technology - Atlanta GA

Aug 2018 - Anticipated May 2021

- BS in Biomedical Engineering
 - 3rd Year – Senior
 - Dean's List Scholar
 - 3.37/4.0 GPA

A.A.S in Natural Sciences, Middle Georgia State University – Cochran GA

Jan 2017 – May 2018

- M.O.W.R at Armstrong State University and Middle Georgia State University (Georgia Academy)
- Graduate of the Georgia Academy
 - Presidential List Scholar
 - 3.75/4.0 GPA

TECHNICAL/NON-TECHNICAL SKILLS

Programming: MATLAB, C ++, Arduino UNO, Arduino IDE

Certifications: Manufacturing Engineering

Software/Hardware: Microsoft Word, Excel, PowerPoint, Circuit Building/Operations, SolidWorks, R&D

RESEARCH/WORK

Undergraduate Researcher II – Atlanta, GA

August 2020 – Present

Smart Sea Level Sensor (SSLS)

- The SSLS project as a part of the community research team. The SSLS project is an initiative to install a network of internet-enabled sea level sensors across Chatham County to aid in emergency planning, disaster response, and analyzing risks associated with sea level rise.
- Update neighborhood-specific emergency preparedness and response plans to help communities become more resilient to climate change, storm events, flooding, and industrial accidents/releases.
- Conduct research on the impending risks on the community of Savannah that threaten community health and safety.
- Collaborate with neighborhood communities and surrounding area to understand the needs/wants of the community.

R&D Team Member – Atlanta, GA

January 2020 – May 2020

Ostonauts

- Worked on a team of 4 members where we decided to research and study current market colostomy bags and how we could create a new prototype colostomy bags that would address user needs not address by market colostomy bags.
- Met with colectomy surgeon and colectomy patient to gain insight on user needs/requirements and other problems that may need to be addressed.
- Obtain current market colostomy bag and stress tested the device in order to identify areas in which we saw needed improvement.
- Created prototypes in SolidWorks and created simulations that modeled the various improvements that were implemented.

Technical Assistant II – Atlanta, GA

Oct 2018 – May 2020

Student Lab Assistant at Georgia Tech Manufacturing Institute

- Building IOT sensor boxes that measure temperature, current, and vibration using a BeagleBone Black, Teensy Board, and Teensy Cape
- Research IOT processes/techniques to improve the process/development of laboratory projects
- Assemble necessary mechanical/electrical devices/projects
- Organize/sort electronic components, electronic devices, mechanical devices, and fasteners

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R&D Team Member – Atlanta, GA

Aug 2019 – December 2019

FoG OFF

- Served on a team of 8 members in which we were tasked with developing a device to help lower the risk of falling caused by gait disorders/diseases. My team chose to address freezing of gait (F.O.G) associated with Parkinson's disease. Our device predicted when the user would experience a F.O.G episode and alerted the user via an audible cue to help lower the risk of falling.
- Conducted various research on user wants and needs.
- Worked with Arduino Bluetooth and Arduino Mega to make the device Bluetooth.
- Used machine learning and MATLAB to train the device to recognize the user's gait pattern and notice when imperfections arise.

Coordinator of Eye Mechanics – Cochran, GA

Jan 2018 - May 2018

NightBot

- Served as the Coordinator of Eye Mechanics on a team of 10 team members working on a 6 week project designing an autonomous unit that serves as a mobile questionnaire robot that will transverse the buildings on the Middle Georgia University Macon Campus
- Conducted research programming methods to effectively represent human eyes on an 8x8 led matrix
- Created several eye depictions to represent real life emotions and reactions via Arduino IDE/ C++ coding
- Compiled necessary data to allow the body movement, eyes, and wheels to work hand in hand

ACCOMPLISHMENTS/CLUBS

- Merit Page Publish by Georgia Tech **June 2020**
- Engineering World Health (EWH) **Jan 2018 – Present**
- BME Robotics **Aug 2019 – Present**
- Awarded and Recognized as a National Georgia Merit Scholar **May 2017**