

# Marloes S. Booker

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## EDUCATION:

Louisiana State University

December 2021

Xavier University of Louisiana, New Orleans, LA

May 2021

Bachelor of Science, Dean's List

Major: Dual Degree Electrical Engineering (LSU) & Physics (Xavier)

Minor: Mathematics

## Employment History

**Mississippi Power/Southern Company**

December 2021-Present

Supervisors – Joseph Stewart, Donnie Newman

- CO-OP in Protection and Control Department
- **Commissioned New Control House**
  - Verified new Panel wiring
  - Installed relay settings
  - RTS tested relays
  - Transferred various SCADA communications from previous control house
- **Replaced numerous Transmission and Feeder Breakers**
  - Created installation plans for construction crews
  - Tested Current Transformers
  - Verified wiring of breakers
  - Function tested breakers
- **Updated Real Time Automation Controller cybersecurity firmwares**

## RESEARCH/INTERNSHIP EXPERIENCE:

**Mississippi Power/Southern Company**

Fall 2021

Supervisors – Joseph Stewart, Donnie Newman

- CO-OP in Protection and Control Department
- **Routine tested transmission breaker relays (SEL 351)**
- **Routine tested feeder breaker relays (SEL 351)**
- **Routine tested line relays (SEL 311, SEL321)**
- **Routine tested Lightning Arrestor Failure relays (SEL 551)**
- **Tested multi-tap CTs**
- **Inspected integrity of fiber optic infrastructure**
- **Performed differential current relay tests**

- **Verified relay settings**
- **Installed Relay Settings**
- **Contributed to RTAC file settings**
- **Installed relays and other SEL devices (SEL 2411, SEL 2505, SEL 3610)**
- **Troubleshoot various relay communication failures**
- **Learned protection and control schemes**

**Mississippi Power/Southern Company** **Summer 2020**

Supervisors – Joseph Stewart, Donnie Newman

- **Interned in Protection and Control Department**
- **Learned structure and function of various Schweitzer Relays**
- **Learned protection and control schemes**
- **Function system relays**

**Mississippi Power/Southern Company** **Summer 2019**

Supervisors – Rufus Burnett, Melvin Roland

- **Interned in Substation Specialist Engineering department**
- **Learned about the physical components of substation**
- **Tested every component within a substation**
- **Interacted with transformer vendors**
- **Learned how to read various electrical diagrams**

**MIT/Harvard Wellman Photomedicine Institute** **Summer 2017**

Research Advisors- Dr. Walfre Franco, Mr. Antonio Ortega- Martinez

- **Studied the physiology of elephant seals and how human activity affects marine ecosystems and how to minimize those impacts.**
- **Created a calibration-less optical probe for measuring the muscle oxygen saturation of free diving elephant seals.**
- **Sensor will later be used in dermatology industry to externally detect various forms of skin cancer**

**Tulane University Biomedical Engineering Department** **Summer 2018**

Research Advisors- Dr. Carolyn Bayer

- **Studied preeclampsia and its vast affects on the mothers and children**
- **Researched the effectiveness of microbubbles as a contrast agent in studying oxygenation trends in rats with lab induced preeclampsia**
- **Leamed the reproductive anatomy of female rats**
- **Leamed how to do rat tail injections**

**NASA/ Xavier University Space Balloon Research Project** **Fall 2016-Spring 2017**

Research Advisors- Dr. Freddie Landry, Dr. Morewell Gasseller, Dr. Ashewith Chilvery

- **Developed a payload to collect Temperature, Pressure, and Humidity in outer space**
- **Lead the electrical design team in creating the payload's motherboard**
- **Attended hands-on electronics courses**

- Presented to employees at NASA research center in Palestine, TX
- Attended numerous lectures regarding voltage source designs, the chemical makeup of various types of batteries, and the sensors installed on the payload

**NASA/ Xavier University Space Balloon Research Project** **Fall 2017-Spring 2018**

Research Advisors- Dr. Freddie Landry, Dr. Morewell Gasseller, Dr. Ashewith Chilvery

- **Developed a payload that studied electric fields in outer space as a function of height**
- Lead the electrical design team in creating the payload's motherboard
- Attended numerous lectures regarding voltage source designs and the chemical makeup of various types of batteries.

**Xavier University Office of Facility Planning and Management**

- **Coordinated plans with local architects to alleviate campus flooding**
- **Lobbied for funds from various sustainable energy groups in DC that could be dedicated to storm water basins on Xavier University's Campus**

**Xavier University of Louisiana's Nano Science Research Lab** Summer 2016-Current

Research Advisor – Dr. Anderson Sunda- Meya

- Created the *Telemedicine T7*
  - A wireless prototype kiosk that connects doctors to patients in underserved communities
  - Kiosk measures body temperature, blood pressure, and respiratory rate
- **Won first place in oral presentation at Xavier's Research Festival**
- Built and Serviced two 3-D printers

**CONFERENCES:**

- Emerging Researchers National Conference Washington, D.C Spring 2016
- Emerging Researchers National Conference Washington, D.C. Spring 2017
- Emerging Researchers National Conference Washington, D.C Spring 2018
- Leadership in Educational Facilities Conference Washington D.C. Summer 2018
- National Society of Black Engineers Nationals Boston, MA Spring 2016
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**SKILLS:**

- Proficient in programming logic (Python, C++), Microsoft Word, PPT, and Excel, Above average golfer

**ACTIVITIES/ HONORS:**

- **Alpha Phi Alpha Fraternity, Inc. (Beta Tau Chapter Treasurer)** **Fall 2018**
- University Provost Speaker Series Selection Committee Spring 2018 - Current
- **McNair Scholar** **Spring 2016 - Current**
- **National Society of Black Engineers (Vice President)** **Fall 2017- Spring 2018**
- National Society of Black Engineers (member) Fall 2015 - Present
- National Society of Black Engineers (Academic Excellence Chair) Fall 2016 – Spring 2017
- Sigma Pi Sigma Physics National Physics Honors Society Spring 2017 – Current

**Philanthropic Outreach:**

- **Founder/Operator of RedBeansNOLA with a mission of alleviating hunger in New Orleans. Proceeds from handmade jewelry sales are used to feed homeless people in New Orleans "Red Bean Dinners" on Mondays. Over 2500 people have been fed to date.**

References available upon request.

