

# Ernest B. Williams Jr.

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**Objective:** To obtain an internship that will allow me to utilize my knowledge of Hardware and Software Engineering to create and enhance products and directly improve the experience of users while doing so.

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|------------------|---|---------------------------------------|
| <b>Education</b> | <b>Georgia Institute of Technology, Atlanta, GA</b> | 2012 - Present                        |
|                  | Bachelor of Science in Computer Engineering         | Anticipated Graduation: December 2016 |
|                  | GPA: 3.11   |                                       |

## Work Experience

### **Computing Research Association Distributed Research Experience for Undergraduates, Gainesville, FL** May – August 2016

Undergraduate Researcher – University of Florida

- Conducted literary reviews to assess previous uses of Brain Computer Interface(BCI) devices for authentication purposes
- Worked with a team of three to design and carryout a study to test the efficacy of BCI devices for authentication
- Utilized MATLAB to implement algorithms used to compare sets of data received from the BCI devices
- Worked with the team to document our findings in a research paper and research poster
- Worked with a team of six to improve upon the procedures utilized in the World's First Brain Drone Race
- Utilized the Node.js JavaScript environment to interface commands between a computer and the Parrot Bebop 2 drone
- Documented the improved procedures for future users to improve ease of recreation

### **Opportunity Research Scholars (ORS) Program, Atlanta, GA**

August 2015-May 2016

Scholar

- Collaborated with a team of three to retrofit a child's ride along car to allow a child with cerebral palsy to control it safely
- Researched the most effective methods of allowing the child to safely control the car
- Utilized the Arduino Uno platform to monitor and send all signals required to control the car
- Designed a program to provide the desired motion of the car based on input signals using the Arduino coding language
- Communicated with a clinician to better understand requests and demonstrate results

### **John Deere (Deere & Company), Waterloo, IA**

May – August 2015

Factory Automation Intern

- Created data and documented monitoring screens using TrakSYS software a month ahead of schedule
- Documented the process of creating and manipulating TrakSYS screens for future users
- Communicated with stakeholders to ensure that their needs were met
- Worked with my supervisor to troubleshoot issues with PLC based factory processes

### **Office of Minority Educational Development (OMED) EDGE Program, Atlanta, GA**

August 2014 – Present

EDGE Leader

- Provided guidance to 20 freshman students to ensure high retention at Georgia Tech
- Taught effective practices for navigating life at Georgia Tech
- Collaborated with a group of Coaches to plan large and small group events

### **OMED Challenge Program, Atlanta, GA**

June – July 2014

Counselor

- Collaborated with a group of Counselors to plan and execute events
- Served as a role model and a source of information for 74 Challenge participants
- Assisted students in meeting academic goals during the 5-week residential program

### **Goodwill Industries International Inc. Augusta, GA**

August 2011- December 2014

Retail Associate

- Provided customer service while acting as a cashier
- Assisted in the acceptance and processing of donations
- Trained new employees in various positions from cashier to donation assistant

## Technical Skills

Experience programming in MATLAB, Java, C, C++, Assembly, MIPS, Arduino, Python, and VHDL

## Leadership Experience

### Center for Engineering Education and Diversity (CEED)

August 2016 - Present

#### *Research Mentor*

- Provided guidance to four undergraduate and transfer freshman to ensure high retention at Georgia Tech
- Shared past and current experiences to mentees know the variety of opportunities afforded to them
- Scheduled monthly meetings to create a sense of community within my group of mentees

### Georgia Tech Society of Black Engineers (GTSBE)

May 2016 - Present

#### *Historian*

- Utilized picture and video recordings to document organization events
- Created social media campaigns to encourage students to attend upcoming organization events
- Coordinated with event organizers to assist with setup and cleanup for events

### God's Influence Flowing Through Every Disciple (G.I.F.T.E.D)

August 2013 - May 2016

#### *Treasurer*

- Planned and executed events geared towards acquiring club funds
- Managed and Budgeted \$1500 in organization funds towards Bible studies and other events
- Coordinated with SGA budget office to handle any disbursements received

#### *Telecommunications Committee*

- Assisted with the restructuring and maintenance of the organizations website
- Increased website traffic by more than 15% of the past semester.
- Created promotional video to help with our effort to attract more members

### ECE 2031 (Digital Design Lab) Teachers Assistant, Atlanta, GA

August 2014 – May 2015

- Provided guidance for students working in the lab
- Assessed students work for accuracy and completion

### African American Student Union (A.A.S.U)

August 2013

#### *Publicity Committee*

- Utilized Photoshop to design promotional flyers for organizational events
- Applied graphic design principles to maximize advertisement effectiveness

## Extracurricular and Volunteer Activities

Westminster Commons Visit

February 2016

Go Baby, Go! Car Ride – In Car Donation

February 2016

Eastman Ambassadors Leadership Forum

August 2014

Martin Luther King Day of Service

January 2013 – January 2014

National Society of Black Engineers

August 2012 - Present

African American Student Union

August 2012 - Present

## Awards

John and Alice Davis Scholarship Award

August – December 2016

PURA Undergraduate Research Salary Award

July 2016

CREU Undergraduate Research Funding

August 2016 – December 2016

Intel Cornell Cup Semifinalist

February 2016

Texas Instruments RISE Scholarship

August 2015 - Present

Warren L. Batts Innovation Award

March 2015