Jacob C. Botimer

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Education

University of Michigan — Ann Arbor, MI
Bachelor of Science in Electrical Engineering — September 2014 - December 2016
GPA: 3.88/4.0
Relevant Courses: Integrated Microsystems, Analog Circuit Design, Digital Circuit Design, Digital Logic Design

Employment and Experience

University of Michigan — Ann Arbor, MI
Instructional Aide - ENGR 100 — August 2015-Present

- Led a lab section of twenty students that conducted experiments on various electrical engineering principals
- Instructed students in lab and during office hours on course material and other related topics
- Developed the lab procedure for analyzing solar cell characteristics

Texas Instruments — Dallas, TX
Product Engineer Intern — May 2015-August 2016

- Performed an essential role in developing the characterization/validation plans for multiple types of battery gauges
- Utilized Labview, Teststand and BVP to implement automated test sequences on the device hardware
- Maintained multiple lab stations to perform several characterization projects in parallel
- Analyzed large amounts of data using Excel and Spotfire to create reports and present my findings on device performance to TI gauging team

Undergraduate Research Opportunity Program — Ann Arbor, MI
Research Assistant — September 2014-May 2015

- Worked with Dr. Nicholas Langhals on surface electrode testing for electrocardiogram measurement
- Tested multiple types of surface electrodes utilizing various in lab equipment such as oscilloscopes, function generators, filters and amplifiers.
- Developed an experimental method to advance our goal of finding surface electrodes with increased accuracy, SNR, and data quality
- Analyzed data using MATLAB scripts and built in functions to create professional reports of our findings

Project Experience

EECS 425 - Non-Volatile Actuated Gate-Lock System for Dielectrophoretic Devices

- Designed a fully functional MEMS device with actuating silicon arms and digital/analog controlling circuitry
- Fabricated the device in the Lurie Nanofabrication Laboratory and performed tests to ensure functionality

EECS 311 - Design of multi-stage transistor amplifier

- Designed a three stage transistor amplifier with consideration to gain, cutoff frequencies, input/output resistances, and power consumption
- Simulated and tested the amplifier using Cadence software and in lab equipment

Relevant Skills

Languages: C++, Verilog, Labview
Applications: MATLAB, Simulink, Cadence, Multisim, Teststand, Spotfire