SARAH "KATIE" SOWDERS

163 North Wynstone Dr. Barrington, IL | 847-814-7068·| ssowders@gatech.edu | U.S. Citizen

OBJECTIVE

Student with a passion for software and firmware engineering looking to make an impact on the world's next generation technology

EDUCATION

Georgia Institute of Technology: Honors Program **Atlanta, GA**
Fall 2014-Fall 2018
Major: Computer Engineering **Minor:** Computing and Intelligence **Overall GPA:** 3.44

EXPERIENCE

Tesla Motors **Palo Alto, CA**
Work 45/wk as a Firmware Intern *August 2017-Present*
- System validation automation of Model 3 and Model S/X HW2.5 autopilot
- Individually developed testing infrastructure for Model 3 Lateral Control and Auto Lane Change feature

Ford Motor Company **Dearborn, MI**
Worked 40/wk as a Product Development Intern *June 2017 – August 2017*
- Data dictionaries and architecture management for model based designs

Intel Corporation **Folsom, CA**
Worked 40/wk as a SXP Presilicon Design Engineering Intern *January 2017-June 2017*
- Worked in Intel's nonvolatile solutions group to verify 3DXP memory technology
- Developed specific test environment/platform, validation methodology and test plans to validate the device by identifying and exercising boundary conditions

General Electric (GE) Transportation **Erie, PA**
Worked 40 hrs/wk as a Controls and Electronics CoE Intern *May 2016-August 2016*
- Wrote and executed Functional Qualification Testing (FQT) document for the testing of a processor based PCB prototype
- Wrote VHDL code that cut the memory needed to execute on a CPLD by 50% and decreased dynamic run time instructions.

ECE 2031: Digital Design Lab **Atlanta, GA**
Work 3 hrs/wk as a Undergraduate Teaching Assistant *August 2016-December 2016*
- Assist a class of 20+ students in understanding course materials in a lab setting. Instruct students in VHDL programming, hardware debugging, simple computer architecture and basic assembly programming.

PROJECTS

Assembly and FPGA experience (Cyclone FPGA- Altera Development Board) **Spring 2016**
- Four person team authoring ASM code to detect and map objects in a simple field using an AmigoBot.
- Developed occupancy grid algorithm by adding detected objects to a list and inferring other spaces based on project constraints, forming the foundation of our project and leading to a 30% increase in average efficiency.

Embedded Projects (ARM Microcontroller) **Spring 2016**
- Developed the game Agar.io on the mbed in C/C++. The gaming system combined uLCD screen, speaker, pushbuttons, Ethernet cable and jack and an accelerometer that interfaced with the game. It included single player and multiplayer capabilities along with multiple game modes such as timed mode. Used programming skills such as object oriented programming, file I/O, and iterative position update calculations to make a successful comprehensive game.

SKILLS

Communication: verbal/nonverbal communication skills, public speaking, team leadership
Programming: Java, Python, C, C++, MIPS/ARM Assembly, MATLAB, VHDL, Universal Verification Methodology, Robot Framework, HTML, Object Oriented Programs, Computer Architecture, Data Structures, System Verilog
Software: Linux/Unix, Windows, Inventor/AutoCad, Microsoft Excel, Solidworks, LabView, Github
Hardware Debugging: Oscilloscope, logic analyzer, voltmeter, ammeter, test bench firmware
Embedded Devices: Altera Cyclone 2 FPGA, Arduino, Mbed ARM microcontroller, CAN Routers

LEADERSHIP ROLES/EXTRACURICULAR ACTIVITES

Alpha Chi Omega Sorority, IEEE, Society of Women in Engineering (SWE), Women in ECE (WECE)

Student Center Programming Council (SCPC) **Atlanta, GA**
Homecoming Committee Scavenger Hunt Chair *Fall 2014-Fall 2016*
- Plan homecoming events that the entire student body can participate in. Specifically organize, write clues, design tasks, and assign points for the Georgia Tech Scavenger hunt, which more than 1000 students participate in annually.

Alternative Service Breaks (ASB) **Memphis, TN**
Student Leader *October 2014-March 2015*
- Lead a group of 18 students to Memphis, Tennessee providing 32,072 meals to the hungry in Memphis and surrounding cities