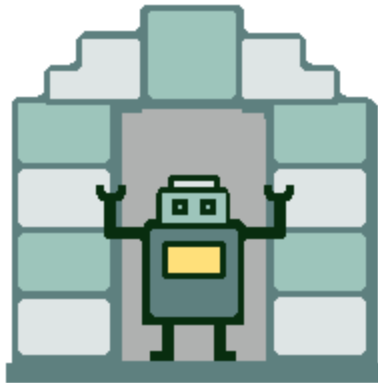# Team Inventory
9/27/2018

Keystone Robotics
Robot Assisted Tours

Project Sponsor: Michael Leverington
Faculty Mentors: Austin Sanders, Jun Rao

Team Members:
Hailey Ginther, Shannon Washburn, Gabrielle Halopka

Overview

The purpose of this document is to briefly introduce each member and outline any training or experience they have as well as strengths and weaknesses.

Hailey Ginther

<u>Major:</u> Computer Science
<u>Hometown:</u> Cave Creek, Arizona

<u>Education:</u>
2010 - 2014: Cactus Shadows High School - Cave Creek, AZ

2014 - 2019: Northern Arizona University - Flagstaff, AZ
   Relevant courses:
- CS 480 - Operating Systems
- CS 386 - Software Engineering
- CS 315 - Automata Theory

<u>Work Experience:</u>
- 2018: Student TA for CS 480, Operating Systems & CS249, Data Structures
  - Held office hours twice a week, assisting students in C & Java programming concepts, sorting algorithms, and operating system processes.
- 2018: Summer research for Dr. Michael Leverington
  - Worked as a part of a small team researching viability of 30-Gallon robot as a Capstone project.

<u>Skills:</u>
- Proficiency in C, C++, Java, and Python - From combination of 4 years' coursework and student TA experience.
- Experience programming Arduino- Built and tested two small-scale test robots controlled by Arduino UNOs as part of Dr. Leverington's summer research.
- Team project planning - Experience planning and implementing small mobile apps and games from combination of coursework and hobbyist game development for past 5 years.

<u>Other Interests:</u>
- Game Development - As a hobby I follow the process and creation of dozens of small-scale video games and try to emulate these processes in my own small projects.
- Robotics - I have loved the idea of semi-self sufficient robots and robots capable of assisting humans since I was a child. I am an avid fan of the work done by Boston Dynamics.

Shannon Washburn

<u>Major:</u> Applied Computer Science
<u>Hometown:</u> Las Vegas, Nevada

<u>Education:</u>
2009 - 2013: Las Vegas Academy - Las Vegas, NV

2013 - 2019: Northern Arizona University - Flagstaff, AZ
　　Relevant courses:
- CS 480 - Operating Systems
- CS 386 - Software Engineering
- CS 421 - Algorithms

<u>Work Experience:</u>
- Summer 2015: American Express Security Internship
  - Attended meetings, created authentication flows, assisted with website data visualization.
- 2015-present: Lab TA for CS 122, CS 126 & CS 136
  - Gave lectures and assisted students with lab assignments.
- 2018: Summer research for Dr. Michael Leverington
  - Worked as a part of a small team researching viability of 30-Gallon robot as a Capstone project.

<u>Skills:</u>
- Proficiency in Python, Java, C, MATLAB, HTML, JavaScript, and AngularJS.
- Mobile app development using Android Studio, Unity, Apache Cordova and Ionic.
- Basic understanding of network programming and database management.

<u>Other Interests:</u>
- Robotics - I have worked with some small robotics kits over the summer while working with Dr. Leverington and have developed an interest in how they can navigate using a combination of different sensor data.
- Foreign Language - In my spare time I enjoy studying foreign languages and have varying levels of proficiencies with French, Chinese, and Spanish.
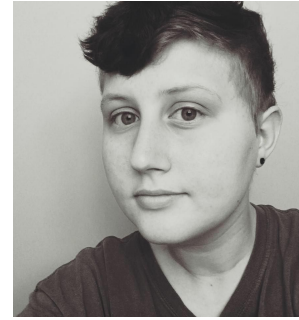
Gabrielle Halopka

<u>Major:</u> Electrical engineer with computer engineering emphasis
<u>Hometown:</u> Scottsdale, Arizona

<u>Education:</u>

    2010-2014: Paradise Valley High School

    2014 - 2019: Northern Arizona University
        Relevant Courses:
- Data Structures - Java Programing in formal algorithms and standardized data structures
- Engineering Design - Projects based around the Arduino microcontroller and the design process

<u>Work Experience:</u>
- Aug 2016 – Dec 2017: Teaching Assistant for Introductory Computer Science Course
  - Assisted students in better understanding Python
  - Organized help sessions for Students
- Summer 2018: Micron Product Engineer Intern
  - Modified existing code and wrote Perl and Python code to run simulations on parts affected by row hammer attacks
  - Processed and evaluated raw data from the simulations
- Jan 2018 – Present: Student Researcher in Cybersecurity Lab
  - Collaborated with small team to develop a public key exchange method using BB84 protocol
  - Collaborated with small team to come up with a cybersecurity solution using DRAM

<u>Skills:</u>
- Proficient in Python
- Basic Knowledge of Java, C, Perl, and Verilog
- Basic understanding of analog and digital design

<u>Other Interests:</u>
- Cryptography - Use of nanotechnologies and physical devices in cyber security
- Robotics - Use of programmable boards (Arduino, Raspberry pi,ect.) to perform functions