

Hongjun Wu

Resume for Github

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1 ABOUT THIS RESUME

This resume is prepared for GitHub for people that want to know me.

2 SKILLS

-Computer Aided Design & Engineering

SolidWorks: Proficient and Experienced for four years

Mastercam: Proficient and Experienced for two years

LabView: One year experience with an independent high level project.

Mach 3: Proficient and Experienced for two years

MakerBot 3D Printing: Experienced for four years.

-Programming Language

Java

Python

HTML+PHP

-Media Software

Adobe Photoshop: Proficient

Adobe Premiere: Proficient

3 WORK EXPERIENCE

2013 - 2017 CEO, *FIRST Robotics Competition Team 4415 EPIC ROBOTZ*

- Team founder, CEO, lead of the Computer Aided Design and Manufacturing department. Participated in the *Aerial Assist*, *Recycle Rush*, *Stronghold*, and *Steamworks* game.
- More Information about the team can be found here:
<https://www.epicrobotz.org/>

2016 - 2017 Director, *Valley Christian High School*

- Project director founded the "Art 250" program. Provided a platform for other students and community to study art history and express their creativity in different art forms.
- Club Chairman, was the chairman of Coding Club during the year of 2016-2017. We use Lua as an introductory programming to educate students and Swift for advanced programming. We ultimately made this club a programming class after two years of continuous development.

2017-Present Research Fellow, *University of Washington, AIARG.*

I started to work in the UW-Aircraft Icing and Aerodynamics Research Group(AIARG) for the UW AA department since late October 2017. Since then I have been working on a software independently for researchers at the UW Kirsten Wind Tunnel to perform custom calibration tasks using modern equipment.

The purpose for the project is to develop a customizable and open source software for future UW wind tunnel calibration and not to rely on third party company involvement which will cause extra cost and lack of modifiability.

This research program is mentored by Dr. Christopher Lum and Dr. Muhammad Reza Soltani from William E. Boeing Department of Aeronautics & Astronautics, with fund support from Boeing, NASA, and FAA.

More Information about the research organization can be found here:
<https://www.aa.washington.edu/research/AIARG>

More information about the project can be found here:
<https://github.com/Errneist/AIARG-UWKWT-Calibration-Driver>.

4 EDUCATION

2010 - 2013 Middle School, Zhuhai, China, Zhuhai Experimental Middle School

2014 - 2017 High School, Cerritos, California, Valley Christian High School

2017 - Present College, Seattle, Washington, University of Washington

5 COMMUNICATION SKILL

As a previous leader in an engineering team for four years, I am experienced to speak in front of a group of people, giving presentations, and lead a discussion regarding on a specific topic. I am also experienced to work with a small group of people where learning from others is crucial. I have developed a good understanding of creating a structured workflow, and maintain efficiency while organizing a big group of people working on a specific project.

6 PROJECT: UW-KWT CALIBRATION SOFTWARE

6.1 UW-KIRSTEN WIND TUNNEL CALIBRATION SOFTWARE:

This project is one of the projects in the UW Aircraft Icing and Aerodynamics Research Group directed by Dr. Cristopher Lum to work with Boeing, NASA, FAA on cutting edge aerodynamics research.

We are currently working on analyzing and carry out experiments to determine how icing on aircraft wings could affect performance of the aircraft and potential danger due to icing. We are also trying to come out with a universal model and algorism to minimize future study on aircraft icing.

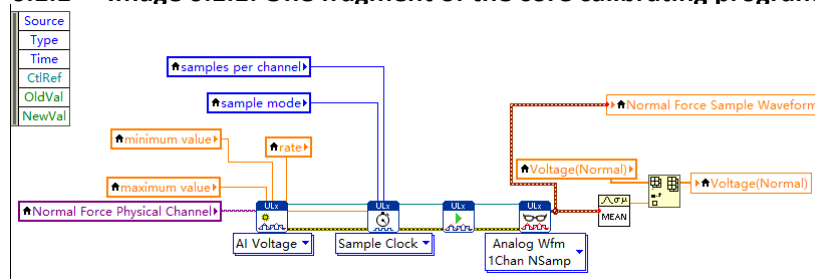
My work in progress is the calibration software. Due to complexity and difficulties in programming in LabView, this task is usually done by a third-party company, but the program not only costs a lot but also lack the flexibility to modify, since the third-party company does not want to publish the source code.

I am currently mentored by Dr. Muhammad Reza Soltani from the AA department to development the software using LabView. The project started early December 2017, and is estimated to be completed by late August 2018, after inspection from Boeing.

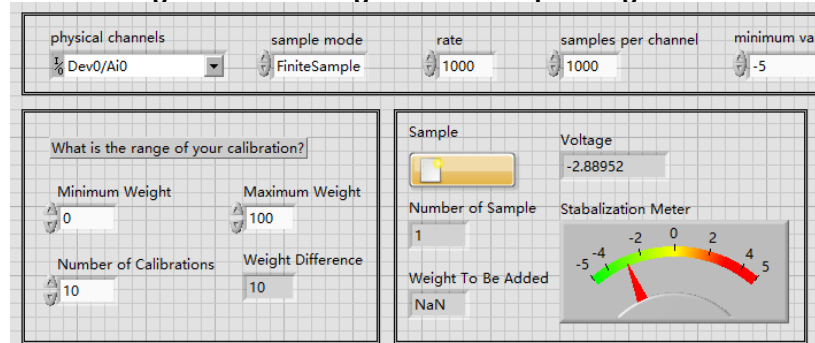
The project detail can be found here:

<https://github.com/Errneist/AIARG-UWKWT-Calibration-Driver>

6.1.1 Image 6.1.1: One fragment of the core calibrating program.



6.1.2 Image 6.1.2: One fragment of the operating User Interface.

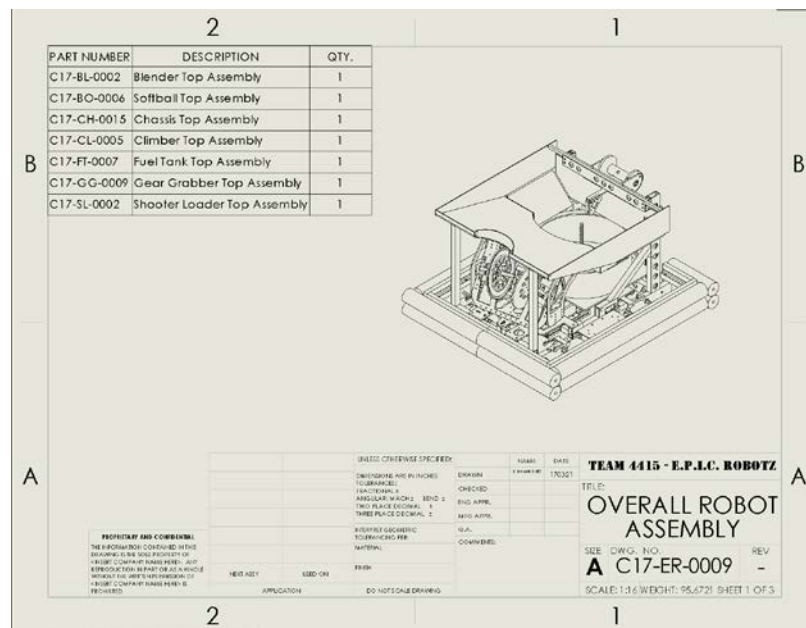


7 PROJECT: FIRST® ROBOTICS COMPETITION 2017

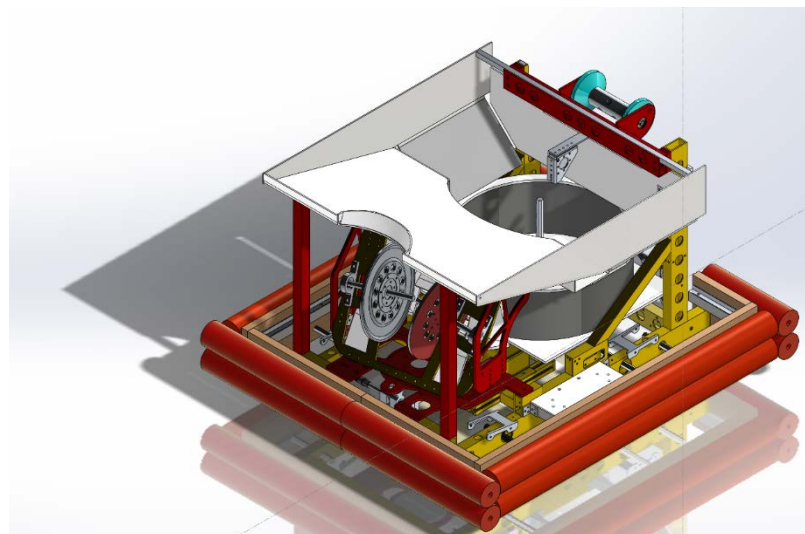
7.1 FRC 2017: STEAMWORKS

I served as the student leader for the design and manufacture of this robot. Since this is a group project, I did not make all the parts. But I designed several of the main components and complicate parts. This year we added a lot of features, including auto aiming, a dual-drive chain mechanism, and image recognition and distance calculation algorithms.

7.1.1 Engineering Drawing of the Robot:



7.1.2 The CAD Model of the Robot.

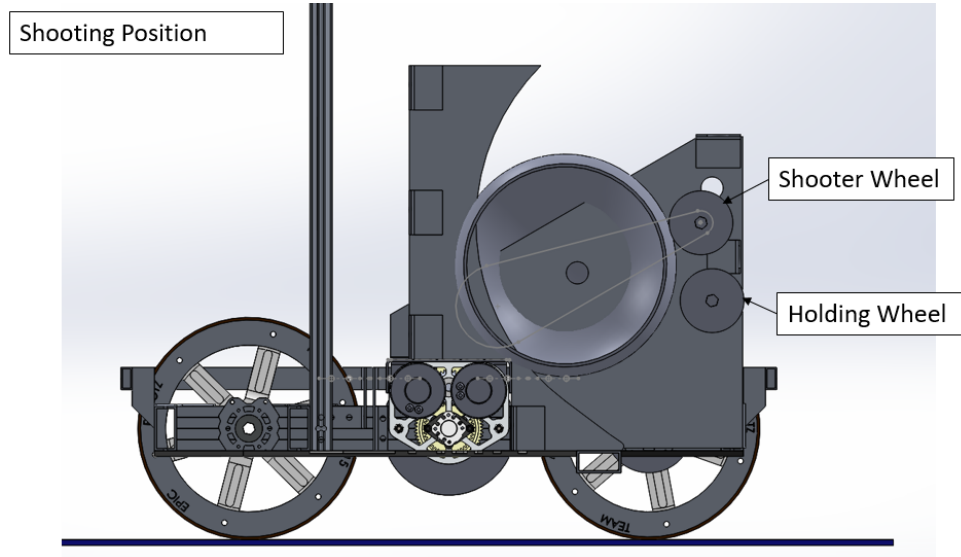


8 PROJECT: FIRST® ROBOTICS COMPETITION 2016

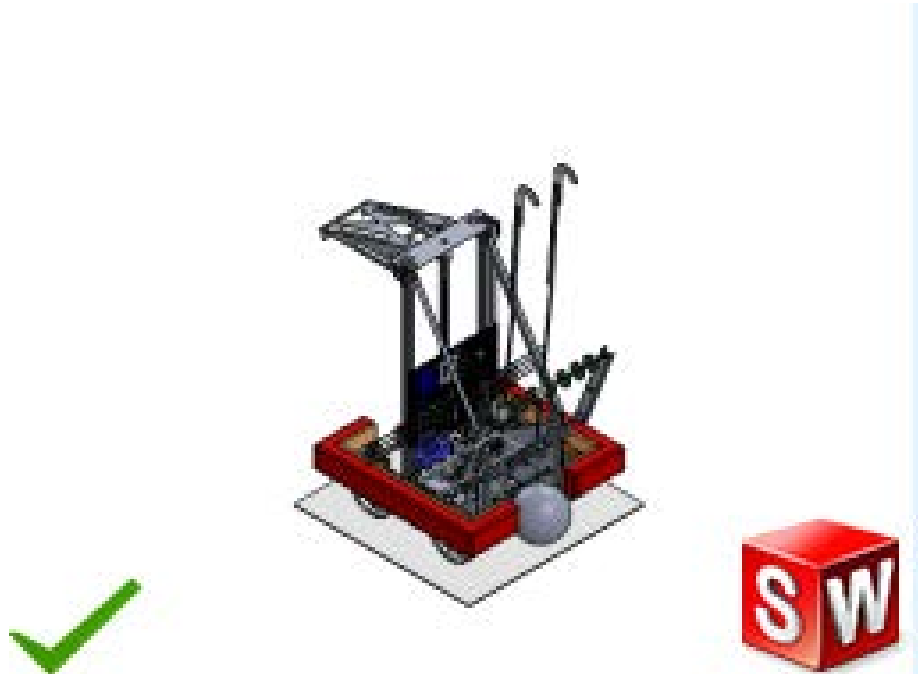
8.1 FRC 2016: STRONGHOLD

In 2016, we built a robot that has wheels customized to tackle extreme field conditions.

8.1.1 A picture of the mechanisms inside the robot.



8.1.2 A CAD Model for the robot.



9 PROJECT: FIRST® ROBOTICS COMPETITION 2015

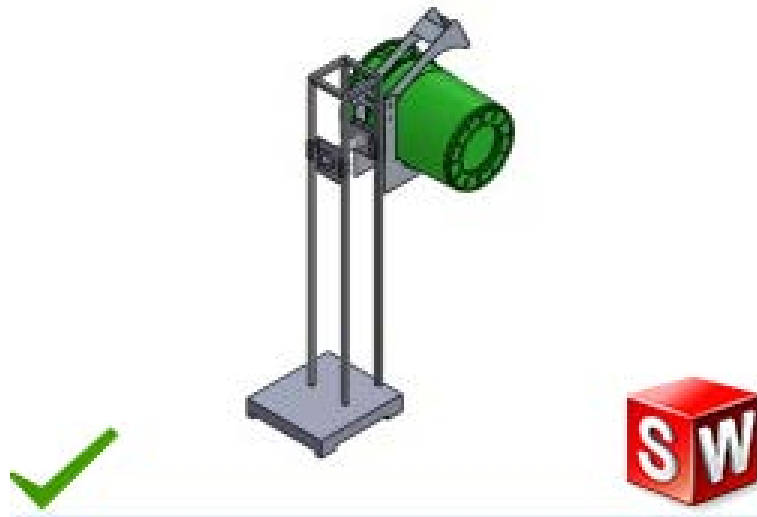
9.1 FRC 2015: RECYCLE RUSH

The team faced the challenge of moving and stack totes and trashcans on top of each other.

9.1.1 A CAD model of the robot



9.1.2 The “Claw” for grabbing a trashcan.

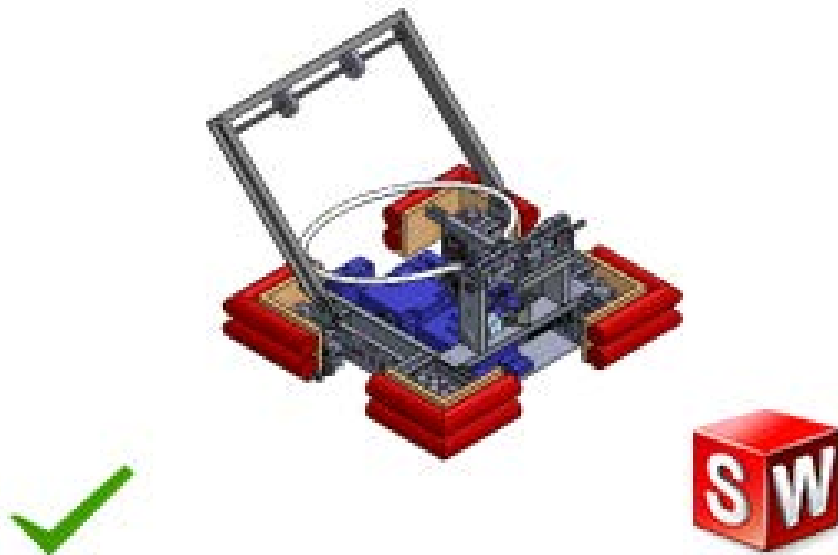


10 PROJECT: RIRST® ROBOTICS COMPETITION 2014

10.1 FRC 2014: AERIAL ASSIST

I founded the team with a team of seniors and juniors in 2014. The year we were challenged to build a robot that can catch and shoot big balls.

10.1.1 A CAD model of the robot



10.1.2 A CAD model of the robot and the balls.

