

# Ben Bretton

8 year FIRST Participant - 4 year FRC (FIRST Robotics Competition) Participant  
3 year FRC Electrical Subteam Lead  
Lifelong Maker & Machine Shop Enthusiast

806 Lancaster Lane  
Newport News, VA 23602  
(757) 872-8463  
Email: [wbbretton@gmail.com](mailto:wbbretton@gmail.com)  
Website: <https://wbenb.github.io>

## LEADERSHIP EXPERIENCE & ORGANIZATIONS

### FRC Team 2363 - Triple Helix — [\*Electrical Subteam Lead for 3 years\*](#)

September 2015 - PRESENT

Responsible for designing and building the robot's electrical & pneumatics system, training sub-team members, and debugging electrical and non-electrical problems under pressure as part of the pit crew during competitions. **Triple Helix advanced to the FIRST World Championship in St. Louis for the last 4 years! See team awards on 2nd page.**

### National Honor Society — [\*Member\*](#)

April 2017 - PRESENT

### Triple Helix Robotics Camp — [\*Technical Lead & Counselor for 2 years\*](#)

July/August, 2015, 2016

Prepared camp equipment - tested hardware, installing & updating all firmware & software. Debugged equipment problems as they arose during the camps, as well as functioned as one of several camp counselors.

### 2016 FRC Robotics Summit at CNU — [\*Presenter\*](#)

September 2016

Gave a [\*presentation\*](#) on the Gas Engine Powered Robot project. [\*Here\*](#) are more details of my involvement in this project.

### Honors Internship — [\*One of 5 hand picked students\*](#)

September 2017

One of 5 hand picked students chosen to assist Menchville High School's Technology Support Specialist with his duties such as fixing hardware, maintenance, and helping teachers.

## ENGINEERING ACHIEVEMENTS

[\*Lathe Mods: Adding Larger Motor & CNC Control - current\*](#)

[\*Newport News Landfill Prototyping Project - current\*](#)

[\*Built an 80W Laser Cutter\*](#)

[\*Researched & Built My Own Quadcopter\*](#)

[\*Built a Gas Powered Robot Go Kart\*](#)

[\*Designed & Built a PWM Motor Tester\*](#)

[\*3D Printer Build\*](#)

[\*Designed & Built a Multi-Voltage Workbench Power Supply\*](#)

[\*Designed & Built an Ammeter\*](#)

[\*Built an Oscilloscope\*](#)

[\*CAD Designed & Built a Garage Workbench\*](#)

[\*Honor Physics: Built a Device To Transmit Music Over a Laser Beam\*](#)

[\*Designed & Built a Black Steel Pipe / Butcher Block Computer Desk\*](#)

[\*Computer Builds\*](#)

## HONORS & AWARDS

2017 National Honor Society Inductee  
2017 FIRST Dean's List Nominee  
2017 Triple Helix Quality Award  
2016 NNPS City Engineering Award - 1st Place  
2016 Electrical Student of the Year

## VOLUNTEERING & STEM OUTREACH

Built a fence for Bluebird Gap Farm  
Newport News Landfill Prototyping  
3D Printed Aids for the Visually Impaired  
Provided Soldering Training to Passage Middle School Students  
Counselor for Triple Helix RoboCamp  
Bell Ringer for Salvation Army  
Rumble in the Roads Volunteer  
CNU STEM day Volunteer  
NNPS SAGE Expo Volunteer  
NAS Oceana Air Show Demo  
Hampton Roads Mini Maker Faire Demo  
CHROME Club demo  
Lewis Ginter Gardens demo  
NN Fall Festival of Folklife Outreach  
Palmer ES Demo  
Heritage HS STEM Event  
AFCEA Demo at Langley AFB

## ATHLETICS & LEISURE ACTIVITIES

Recreational Soccer  
Running  
Kayaking  
Building & Creating

## **FIRST ROBOTICS AWARDS FOR TEAM 2363 - TRIPLE HELIX**

**2017 FIRST World Championship (St. Louis) Archimedes Division Semi-Finalist**  
**2017 FIRST Chesapeake District Championship Finalist**  
**2017 FIRST Chesapeake District Championship Gracious Professionalism Award**  
**2017 Northern VA Event - Gracious Professionalism Award**  
**2017 Northern VA Event - District Event Finalist**  
**2017 Hampton Roads District Chairman's Award**  
**2017 Hampton Roads District Winner**

**2016 FIRST World Championship (St. Louis) Tesla Division Participant**  
**2016 FIRST Chesapeake District Championship Quarter-Finalist**  
**2016 Hampton Roads District Chairman's Award**  
**2016 Hampton Roads District Event Finalist**  
**2016 Northern VA Event - District Event Winner**

**2015 FIRST World Championship (St. Louis) Archimedes Quarter-Finalist**  
**2015 Chesapeake Regional Winner**  
**2015 Chesapeake Regional Innovation in Control Award**  
**2015 Virginia Regional Winner**