

# THE NUTS AND BOLTS

TECHHOUNDS NEWSLETTER - 02/15/2019

## ShopBot

This year, the TechHOUNDS are using a tool to assist in producing the parts for our robot: The ShopBot Desktop MAX. The ShopBot is a manufacturing tool with the ability to carve designed parts out of various materials, including wood and metal. Robot Ops has been using the tool during Week Five and Week Six.

According to Programming and Electrical member Deetya Iyer, the ShopBot is not difficult to operate. The desired parts are first designed on VCarve Pro, a CAD (Computer Aided Design) platform. Next, the design is uploaded to the machine for the manufacturing of the physical part.

Unlike a 3D printer, which uses filament to create a designed part, the ShopBot removes materials to make a part.

Kendal Tinsley, Robot Ops member, said that the team has used the ShopBot to create many parts of the robot, including sheet metal brackets (L-shaped pieces of metal that can be used to mount sensors and motors) and gearbox plates (used to mount the gearbox, which regulates speed and torque in the drivetrain).

The completed robot will be first presented to members of our community at our Robot Reveal Day on Tuesday, February 19<sup>th</sup> from 6:30 to 8:30 PM at Carmel High School. Everyone is welcome to attend!



Carmel High School's ShopBot

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### UPCOMING EVENTS

Stop Build Day

02/19/2019

Robot Reveal & Open House

02/19/2019

Women in Techology Workshop

03/02/2019

Tippecanoe Event

03/23-24/2019

Center Grove Event

03/29-30/2019

# Chairman's Award

The Chairman's Award honors teams that represent the mission of FIRST in their everyday work. The award challenges teams to engage with those around them and to inspire and motivate the STEM community to the best of their abilities by leading workshops, hosting events, mentoring teams, and more.

Every year, the TechHOUNDS strive to engage diverse communities, inspire future leaders, and invent the future both inside and outside the classroom. During IndianaFIRST district competitions, such as Tippecanoe and Center Grove, the Chairman's Team will deliver a 12-minute presentation to a panel of judges, representing our team.



Chairman's Team Member Viha Bynagari working on the Chairman's video.

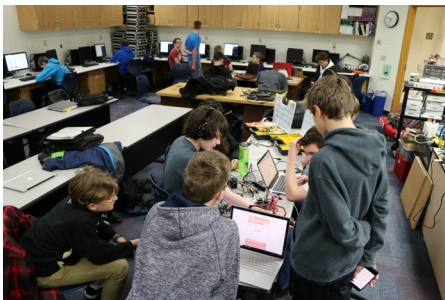
In the 2016 competition, the TechHOUNDS won the Chairman's Award at the Indiana State Competition, and in the 2017 competition season, the TechHOUNDS won the Chairman's Award at the Tippecanoe District Competition. This year, the TechHOUNDS Chairman's Team consists of Team Lead Priya Una, PR Lead Bryce Castle, PR Division Member Viha Bynagari, and IT Division Member Drew Sanchez.

## A Photo Showcase...

PR Lead Bryce Castle teaches PR members how to use Adobe Illustrator.



Mr. Bonewit works with two Robot Ops members on a prototype idea for the robot.



A group of Programming/Electrical members work together to build a circuit



Minjeong Kim works on cutting wood for the practice field.

## End of Build Season Message From Our Editors

"As build season nears its end and the competition season is just around the corner, we would like to thank all of the parents, mentors, and teachers who have spent countless hours working with our team as well as all of our wonderful sponsors for providing generous resources for our team to thrive. The TechHOUNDS are grateful for all of your support!" -TechHOUNDS PR Newsletter Team

# MEET OUR TEAM

A weekly showcase of the members and mentors who make our team tick.

## WHAT MADE YOU WANT TO JOIN TECHHOUNDS?

Many people recommended that I join TechHOUNDS, and I attended the Women in Technology Workshop last year which further peaked my interest.

## SO FAR, WHAT'S THE MOST INTERESTING THING YOU'VE LEARNED?

The most interesting things I have learned are how to use lots of different types of saws, tools, and machines.

## EVIE TALLER ROOKIE



## WHAT ARE YOU LOOKING FORWARD TO DOING?

I look forward to competitions and seeing all the work that we've done for the team put to use.

## WHAT IS THE MOST IMPORTANT THING YOU LEARNED FROM TECHHOUNDS?

I would say probably teamwork—working well with others to power through mistakes.

## ANY WORDS OF ADVICE YOU HAVE FOR ROOKIES?

Get involved—if you want to be a crucial part of the team, you have to be brave enough to put yourself out there and spend a lot of time and effort building your skills.

## WHAT HAVE YOU LEARNED FROM TECHHOUNDS THAT YOU WILL BE TAKING TO COLLEGE?

I will take skills like how to cooperate and work with people of different interests and ideas.

## JOSH MOORE 4TH YEAR



## WHAT DOES BEING A MENTOR ENTAIL?

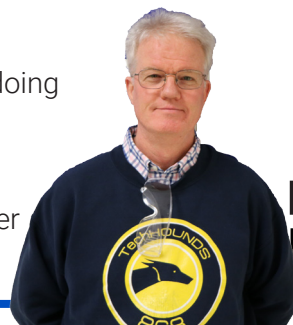
To me—Learning! I'm here to learn what the students do in programming. I'm an IBM systems programmer, and programming these robots looks like fun. The students are really good with vision coding and motion profiling, and these are new and interesting concepts to me. Hopefully I will be able to offer some advice from time to time as a normal mentor would do.

## WHAT IS YOUR FAVORITE PART ABOUT BEING A MENTOR?

I really like working with the kids, seeing them programming the robot, and the challenge of the new game each year. Learning what they're doing is a pretty great experience.

## WHAT IS YOUR PROFESSION?

I'm an IBM z/OS mainframe systems programmer by trade.



## MR. DOBIE MENTOR

# DIVISION UPDATES

This week in Robot Ops, we have been working on finalizing the robot for competitions. As the week draws to a close, we draw closer to a perfect robot. However, because we are making two robots (one official and one practice) we are slightly behind schedule.



ROBOT OPERATIONS



PUBLIC RELATIONS

This week we have been wrapping up a lot of loose projects, moving us ever closer to being ready for competition season. As always we finished the sixth newsletter and the PR video.

PR will continue to keep you updated during the competition season. Make sure to follow our social media and check your email!

This week in Construction, we finished most of the modifications we wanted to make to the pit this year. We're working on finishing up the electrical cart at the moment, and we finished all the drawers and painted them. For the bumpers we are waiting on Robot Ops to give us a definite height and size. Overall, we've just been helping other teachers with various projects.



CONSTRUCTION



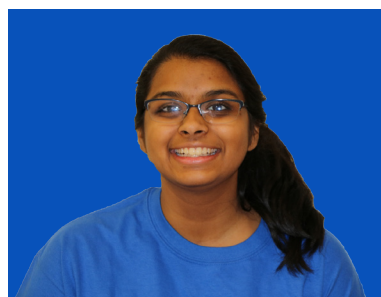
PROGRAMMING / ELECTRICAL

We made and mounted the electrical board for the robot. We also finished our vision detection and following algorithms and made major strides in motion profiling. Additionally, we developed our operator panel and PID controllers.

IT finished up the scouting system. We also worked a little bit on the backend where we pull all of the data from. We edited the frontend a little more to make the scouting system look more refined. We finally worked on some sorting algorithms.



INFORMATION TECHNOLOGY



TEAM LEAD

All of the divisions are finishing up their work. We're looking forward to a lot of work days this three-day weekend, and I hope that everyone comes to robot reveal!

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