

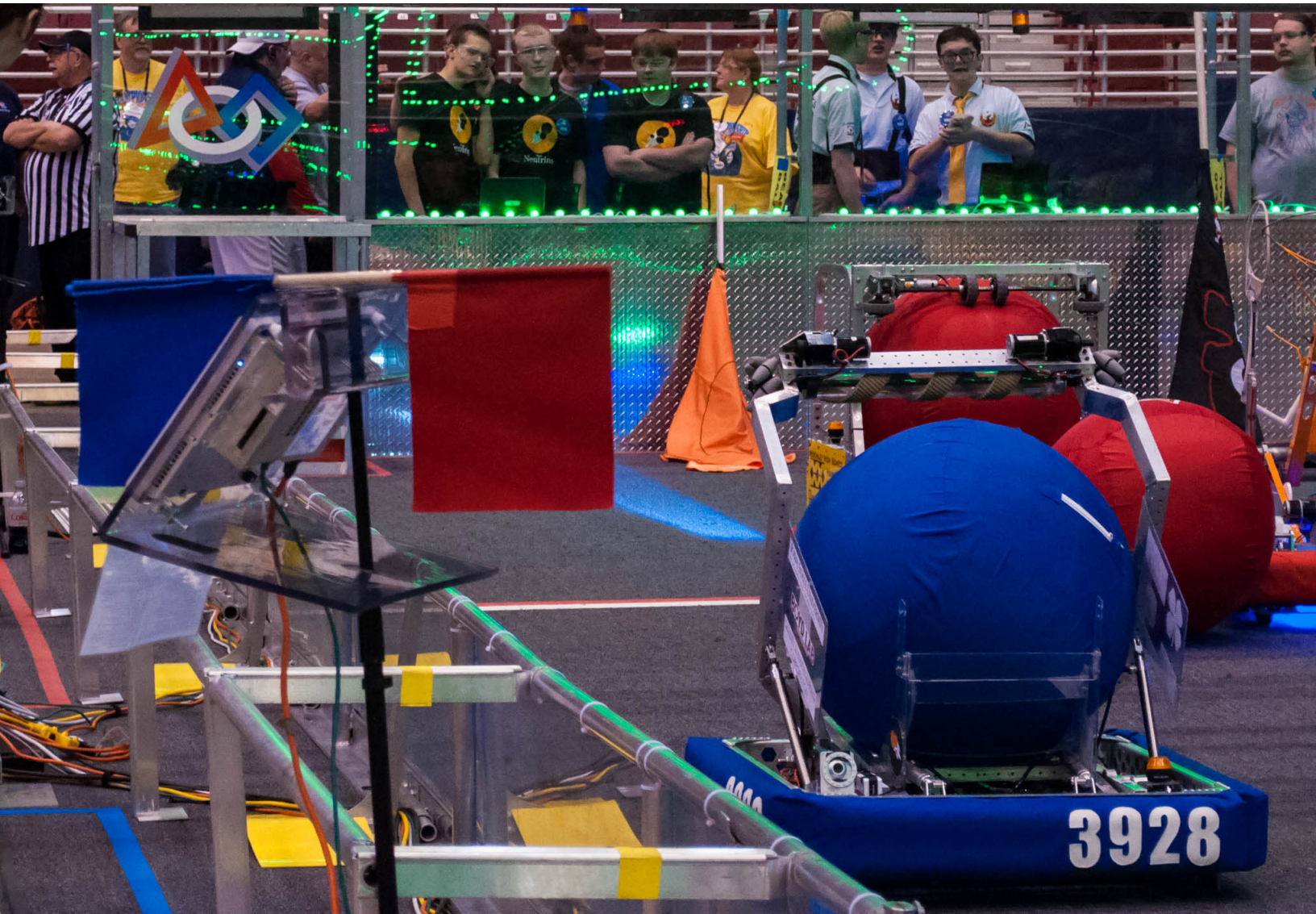


Team
Neutrino

Annual Report 2013-2014

Mission Statement

The mission of Team Neutrino is to provide students with hands on STEM (Science, Technology, Engineering, and Math) experiences at the high school level that would not exist otherwise. The team acts as a real world application to supplement material learned in the classroom. Team Neutrino strives to create a robot that is competitive in the FIRST Robotics Competition and to maintain a positive and recognizable impact in the local community.





Chairman's Essay

In the beginning there were three FRC teams, but then joined Team Neutrino in 2012. The fourth team in Iowa, now out of 6, Team Neutrino spreads the FIRST culture among its own members as well as throughout the community.

Team Neutrino proudly inspires our own students and considers their progress our greatest accomplishment. Each of the 17 team members found a unique niche, and learned many things from their experiences being a part of Team Neutrino. Students of Team Neutrino engage in many technical areas such as design, machining, welding, programming, and Computer Aided Design as well as excelling in non-technical areas including writing and graphic design. As one student says, "Now, when given the tools, I can build anything."

Team Neutrino's ambitious drive trains provide unique and powerful learning experiences for our members. Inspired by seeing another FRC team's swerve drive at an off-season competition, we decided to implement it into our robot with a little twist during our rookie year. A new experience for our team, our modules were unique to any past swerve drives in that the motor that drove the module was located inside of the wheel. Continuing the tradition of challenging drive trains, we designed a "butterfly" drive train in our second season. Not only a major design and learning challenge for our students, the modules were also very useful during the robot rounds and won us the "Innovation in Control" and "Excellence in Engineering" awards. This year, we decided to use the same overall design, but we improved it to fit this year's challenge. During the building of the modules, we paired experienced upperclassmen and mentors with the freshman to take advantage of knowledge gained from the previous years.

Another characteristic that is prominent in Team Neutrino is our ability to be resilient and to be able to bounce back from any problem. In our rookie season, we encountered a huge challenge while building our robot. After a rule clarification regarding the bridge, the design we had was not applicable. Not wanting to back down easily, our team quickly revised the old idea and worked hard on getting a new design. With only a few weeks of build season left, we pushed ourselves and finished the robot on time. With this robot, the team went on to win the "Highest Rookie Seed" award as captain of the 5th alliance.

These experiences complement what students learn in the classroom and provide a stepping stone to their future careers. Beyond the robot, students also manage a website, twitter, Facebook, and instagram accounts. While most students have prior experience in social media, running the team outlets provides

the knowledge necessary for running a company account. 100% of the team has graduated high school and continued onto the STEM field while using their experiences in their careers.

Not only does Team Neutrino benefit its own members, it provides a place for over 13 FIRST LEGO League teams across Story County to continue with their STEM experience. For example, the Flying Monkeys FLL team, winners of the first ever "Global Innovation" award, graduated from FLL to FRC recently, and continued onto Team Neutrino, along with 7 other FLL alumni. For some FLL teams, this transition kept them burning with passion for science and STEM as a whole. Team Neutrino reaches out to the FLL teams outside of Story County by volunteering at several FLL competitions, including two regionals and the Iowa State Championship for the past two years.

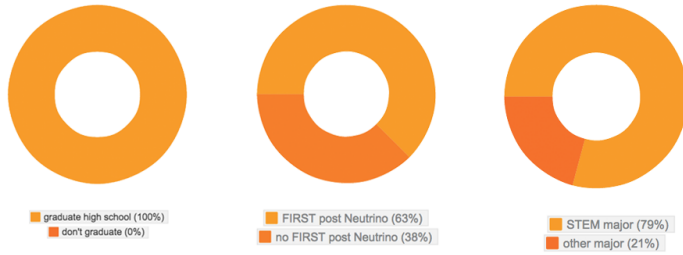
This is not to say that one must be involved in FIRST to be helped by Team Neutrino. The team has also volunteered in the local Talented and Gifted (TAG) summer school program by providing elementary and middle school students with experiences building and programming LEGO mindstorms robots. Every year at the end of the build season, the robot is unveiled, which allows the sponsors and the community to see what we have accomplished. The team has demonstrated their robot prowess to the public in other ways as well, such as the local festival of VEISHEA and the 4th of July parade.

Team Neutrino has overcome several obstacles since our rookie year. During the first year, the team formed a partnership with Ames High School. After that first season, we lost that support and partnership which was the primary work space for the team. This setback was troubling to say the least, yet thanks to the generosity of the local university, hope was not lost. The team formed an even stronger partnership with Iowa State University (ISU) which provided the team an access to Boyd Lab, the ability to invite new members from other high schools in Story County, and many more resources. With these new resources, Team Neutrino has been able to grow beyond what we had ever imagined.

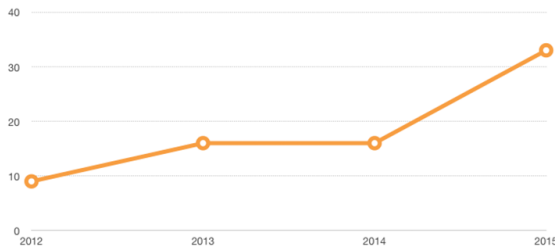
Despite our short history, Team Neutrino has set and achieved high standards for having a successful team. For the past three years, we have had a highly competitive and innovative robot that has performed well at each competition, garnering many awards such as "Excellence in Engineering" in addition to the other awards previously mentioned. Our outreach to the FLL teams in Story County has created a mutually sustainable relationship. Each student comes together to aim high!

2013-2014 By the Numbers

Alumni Stats



Team Neutrino Membership



Award History

2012 Rebound Rumble
Highest Rookie Seed
@ Midwest

2013 Ultimate Ascent
Regional Finalists
Excellence in Engineering
@ Greater Kansas City

Regional Finalists
Innovation in Control
@ Minnesota North Star

2014 Aerial Assist
Engineering Inspiration
@ Minnesota North Star

Volunteer
HOURS
493

Iowa FRC Teams

167 Children of the Corn
Iowa City

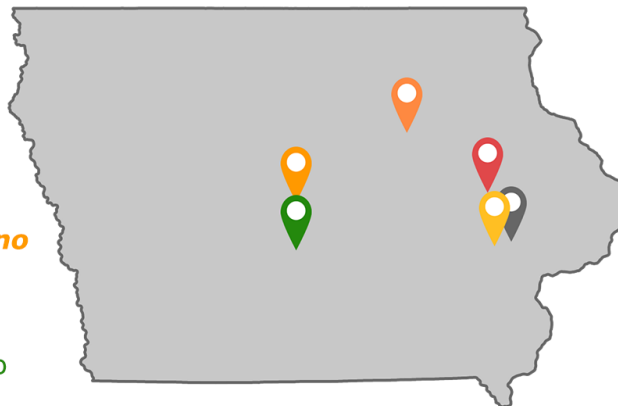
525 Swartdogs
Cedar Falls

967 Iron Lions
Marion

3928 Team Neutrino
Ames

4646 Team ASAP
Des Moines Metro

5041 System Overlord Robotics
West Branch



Volunteer
EVENTS
20

Events and Programs

SEPTEMBER 2013

Ames High Club Fest*

New-Trino Informational Meeting

OCTOBER 2013

Quality Manufacturing Sponsor Visit

NOVEMBER 2013

Ames Electric Sponsor Visit

DECEMBER 2013

FLL Scrimmage and Presentation at AMS*

JANUARY 2014

FRC Kickoff

Iowa State FLL Championship*

Edwards Elementary Science Night*

FEBRUARY 2014

SCI's Girls in Science Festival*

All Iowa FRC Scrimmage

Robot Reveal*



MARCH 2014

City of Ames Eco Fair*

Greater Kansas City Regional

Minnesota North Star Regional

APRIL 2014

FRC Championship Tournament

MAY 2014

JUNE 2014

Super Summer NXT Class*

Ames Electric Thank-You Sponsor Visit

JULY 2014

Fourth of July Parade*

STEAM Presentation*

Story County Fair*

Emerson Thank-You Visit

Solar Car Demonstration*

AUGUST 2014

Monsanto Fund Check Presentation

SCI's Family Night (Robotics Day)*

Ericson Public Library Demonstration*

Iowa State Fair STEM day*

* *signifies outreach event*



Impact on Team Members

Participating in the FIRST program has proved to have a positive impact on the students of Team Neutrino. The team allows students to gain real world experiences in leadership, technical, business, communication, time management, teamwork, writing, and many other skills which they can apply to their life well after leaving the team. It also helps students to realize their strengths and interests which act as a guide for choosing a career later in life.

Team Roster

LEADERSHIP

Tony Milosch // Lead Mentor John Deere Mentor
Jeremy Grzywacz // Captain Junior
Dagney Paskach // Co-Captain Sophomore

MEMBERS

Tiffany Chu // Social MediaFR
Woo Young JooFR
Zhi LiFR
Logan PetersFR
Binaya ShresthaFR
Bekah StammerFR
Takeshi SuzukiFR
Evan Williams // Human Player . .FR
Conor Albinger // DriverSO
Matthew Devig // Pit CrewSO
Kyle Gass // Pit CrewSO
Timothy Steward // OperatorSO
Luke Vespestad // Pit CrewSO
Rachael Stammer // PRSR

MENTORS

Kelsey DrausISU Senior
Jeanne PaskachParent
James DevigParent
John GassParent
Katie WidenISU Junior
Rose StammerParent
Trent BormanISU Senior
Brandon McDonnellISU Junior
Melissa MurrayParent
Alex GrantISU Sophomore
Nick HastoISU Freshman

2013-2014 Sponsors

DIAMOND SPONSORS

Danfoss

John Deere

PLATINUM SPONSORS

CIT Signature Transportation

Quality Manufacturing Corporation

GOLD SPONSORS

City of Ames

SolidWorks

Iowa 4-H Foundation

OPERATIONS PARTNERS

Story County 4-H

Iowa State University Robotics Club

Boyd Lab

SILVER SPONSORS

Kemin Industries

Emerson Process Management

BRONZE SPONSORS

GitHub

TSI

HONORABLE MENTION SPONSORS

Ames Cars

Frontline Bioenergy

Jacob Pleasants

Mrachek Family