



CITRUS CIRCUITS SUMMER NEWSLETTER

UPCOMING EVENTS

Parent Info Night
September 15

Chezy Champs
September 28-30

First WADPAN
October 20

LINKS

 www.citruscircuits.org

 admin@citruscircuits.org

 facebook.com/frc1678

 twitter.com/frc1678

 instagram.com/frc1678

 youtube.com/citruscircuits

DAVIS YOUTH ROBOTICS ROBOCAMPS SUCCESS

This year, Citrus Circuits hosted our third year of Davis Youth Robotics summer camps. This program has grown from two to six weeks of individual camps made to engage students in STEM. Each individual week held about 24 campers from grades 4-8, who worked in groups of two to complete STEM based activities and challenges. Introductory/Intermediate, Girl Powered camp, and Intermediate/Advanced weeks focused on building robots and using creative thinking to reach goals and new achievements. Throughout the week, campers constructed their robot, programmed an automated robot routine, and drove the robot on a game field. Towards the end of the week, campers had the opportunity to compete for two awards. The Auto Challenge award was given to the team who gained the most points in their autonomous routine. The two teams who worked together to score the most points on the game field were awarded the Team Challenge award. The Advanced Programming week was a new summer camp offered this year, as well as the Girl Powered camp. Advanced Programming centered around programming robot routines to complete autonomous challenges while the Girl Powered camp focused on introducing basic robotics skills to girls with an all female staff.



CITRUS CIRCUITS GRADUATE RECEIVES CNC SCHOLARSHIP

With the end of the 2018 season came the farewells of our senior members, who focused on preparing for either college or the workforce. Noah Bystrom, one of our new alumni, will attend Oregon State University this fall to study mechanical engineering on a Gene Haas Foundation/Wolfpack Robotics CNC scholarship, which he was eligible for due to his work on CNC Mills and with Citrus Circuits. Other 2018 graduates will be attending such schools as UC Berkeley, Georgia Tech, CSU Monterey, and more.

STEM ENGAGEMENT

This summer, our team ran four robot demonstrations at locations all over Davis and Woodland. At these events, Citrus Circuits students drove the 2018 season robot and showed off its abilities to the crowd. We were excited to see around 30 people at each event always eager to watch our robot in action. We ventured to five locations in the past few months, including the Davis Kids Club, University Retirement Center, New Harmony Mutual Housing Community, Dee's Wonderland summer camp, and Davis Senior Center. We plan to run four more demonstrations that are scheduled in September at the Atria Covell Gardens, URC, and two at the Explorit Summer Celebration.

SUMMER ROBOT IMPROVEMENTS

During the summer, students worked hard to create new modifications on the Alpha robot. Most modifications focused on control system implementations that make it easier for programmers to code and for electrical to wire on the robot. The system switched to a CAN (Controller Area Network) wiring setup instead of the previous PWM (Pulse Width Modulation) setup which is much more integrated. The camera and vision of the robot also changed from the Nvidia Jetson to a Limelight, which is quicker and easier to use and program. The Limelight also has multiple uses for one camera, so it can be used for things like cube detection and an extra set of eyes for the driver.

OFFSEASON TRIP TO CHINA

From July 22 to August 3, eleven students from 1678 travelled to Hangzhou, China for the unique experience of participating in our first overseas competition for POWER UP, the Qianjiang International Robotics Invitational (QIRI). Run in tandem with the Robotics Championship China (RCC), QIRI is an opportunity for international teams to work with Chinese pre-rookie teams and other Chinese teams lacking mentors to help them build, or just improve, their robots to compete in the competitions later that week. Our team was one of nine international teams invited to assist and demonstrate a competitive atmosphere for the budding Chinese teams.



Prior to the competition, Citrus Circuits was able to assist two Chinese teams in building and improving their robots over the course of a three-day workshop. These teams, 9106, Sunshine, and 6433, HZ4Z, later used these robots to compete in both QIRI and RCC, with 9106 making it to the RCC playoffs. Held in the Hangzhou International Expo Center, the site of the 2016 G20 conference, the Qianjiang International Robotics Invitational boasted a total of 52 teams from all over the world. After seeding third in qualifications, we teamed up with the first-seeded alliance, the Barker Redbacks, 4613, from Australia, and Wuhan Yangtze, 5308, from Wuhan, China, to make it to the finals, placing second overall.

During our time in China, the students had the chance to tour and see different landmarks and sights. These tours were in part sponsored by the Chinese government. Some activities the students participated in included hikes, visiting museums, and shopping. Our team hiked to sites such as West Lake, Six Harmonies Pagoda, and the Qianzhang Rock Waterfall. In Hangzhou itself, students visited the West Lake, an iconic part of the Hangzhou landscape. Filled with water lillies, the West Lake provided a look into Chinese history and culture. Then Citrus Circuits made our way to the Six Harmonies Pagoda, a seven-floored tower providing a view of the Hangzhou skyline. Later in the week, the students visited the Qianzhang Rock Waterfall. Along with the hikes, we visited two different museums: the Tea Museum in Hangzhou, and an ancient library in Ningbo. Citrus Circuits was able to experience shopping at locations such as a fake market in Shanghai, the night market in Hangzhou, and various malls. Students had fun bargaining and buying souvenirs for their families and friends back home.



Overall, a positive and exciting experience, the Qianjiang International Robotics Invitational enabled students to witness a new culture and help spread the message of STEM across borders.