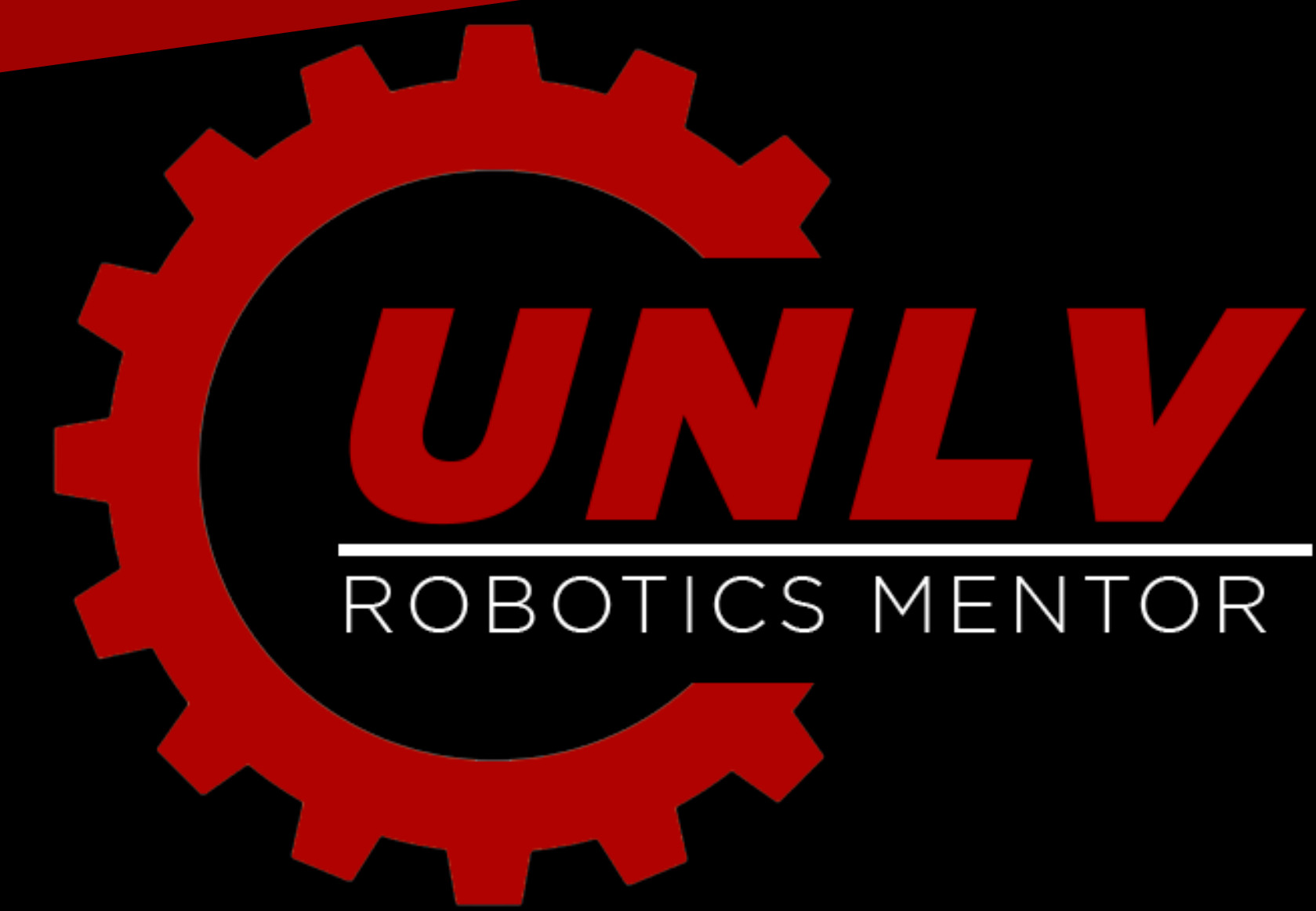# Building a Sustainable Competitive Robotics Ecosystem
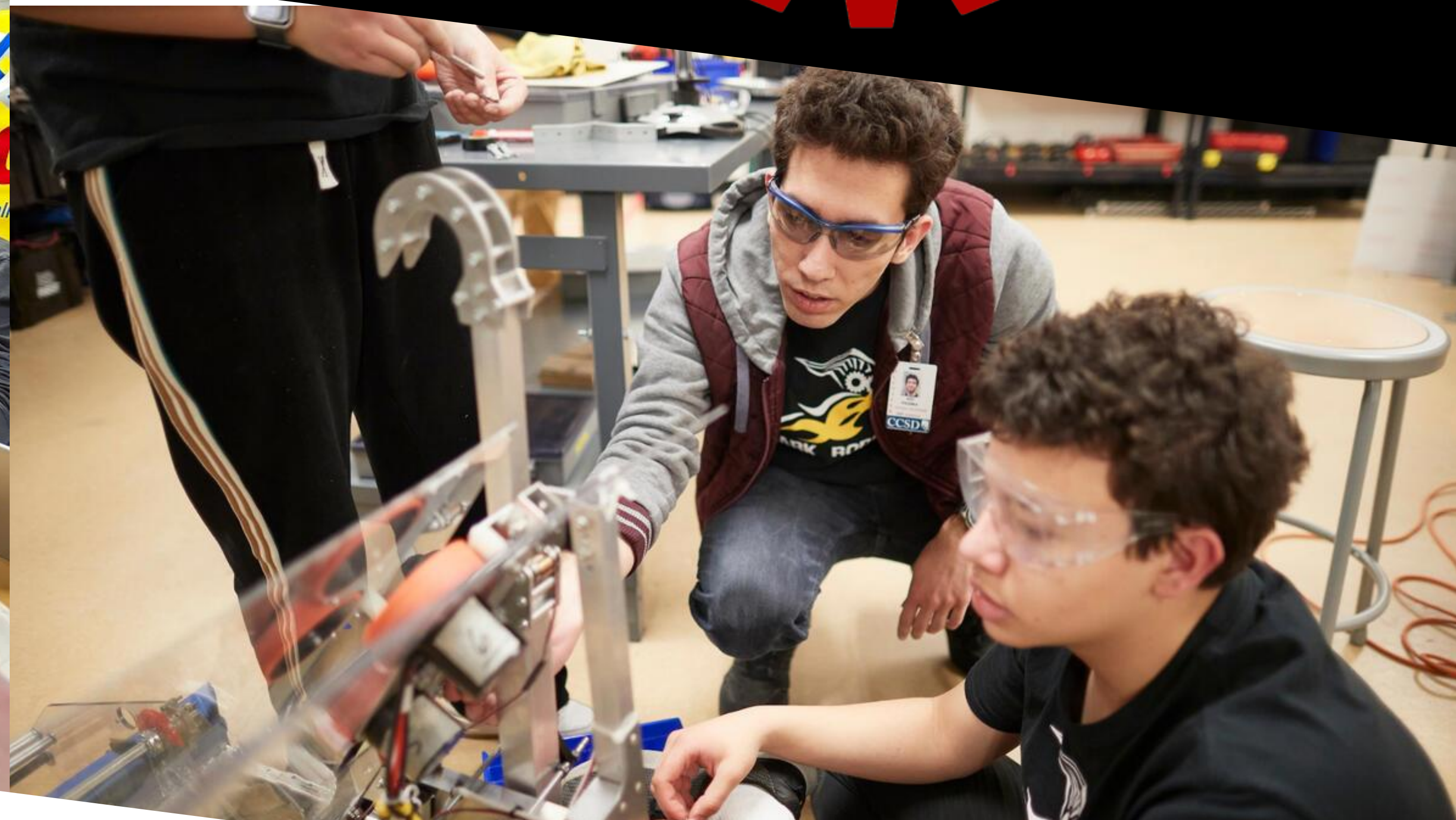
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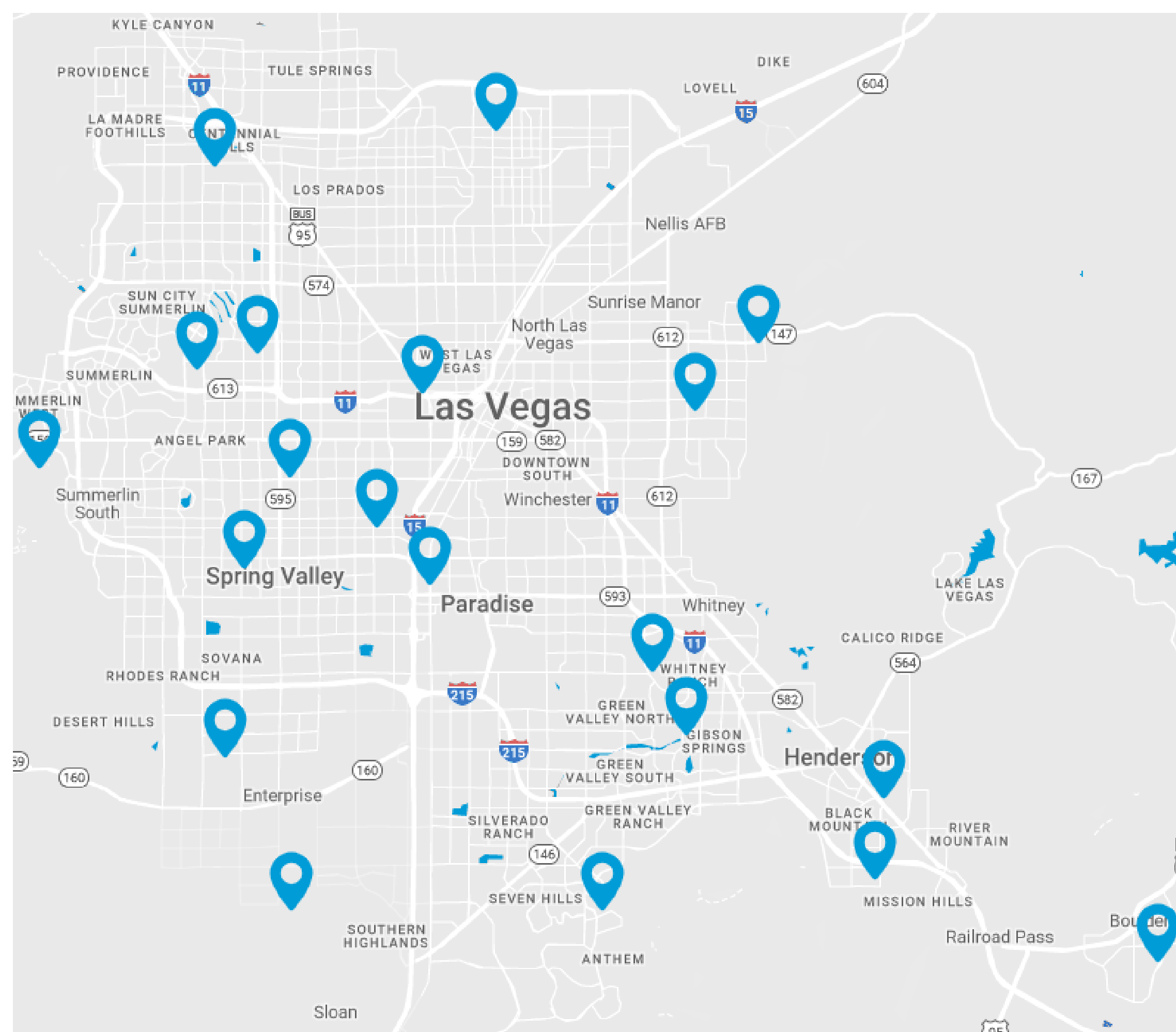brendan.otoole@unlv.edu.

UNLV ROBOTICS MENTOR

UNLV Students Mentor

The UNLV Robotics Mentorship program includes a two semester course series that trains university students to support local high school *FIRST* Robotics Competition teams. In the fall, students gain technical knowledge in design, fabrication, and programming for robotics. Then, in the spring students are paired with local high school teams to serve as technical mentors for the competition season.

What is FRC?

FIRST **Robotics Competition** (FRC) is the flagship program of *FIRST*, For Inspiration and Recognition of Science and Technology. Under strict rules, limited time and resources, teams of high school students are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program industrial-size robots to play a difficult field game against like-minded competitors.

Teams are encouraged to find technical and business mentors from the local community. This is almost a requirement for sustainable and successful teams.

Map of local teams from firstnevada.org

Impact on Southern NV Teams

There are over 20 teams in Southern Nevada, spread throughout Las Vegas, Henderson, and Boulder City.
Year 1 (2022-2023)
*   Trained and deployed 17 mentors to support 16 teams across Clark and Lincoln County.
*   Secured $15k of in-kind donations for materials, parts, and tooling to support mentor training.
*   Secured $42k to pay mentors part-time salaries for their work with high schools
Year 2 (2023-2024)
*   Trained 23 mentors to support 18 local teams.
*   Procured CNC Router to support fabrication of metal, wood, and polycarbonate parts, fulfilling about 50 part requests from local teams for use on their robots.
*   Awarded $26k grant from the Governor's OSIT Nevada STEM Networks to continue paid mentor positions.
Currently in Year 3 of the program.

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