



Colorado Science and Engineering Fair

2025 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: AgriVision: Augmented Reality for Precision Farming

Finalist's Name: Haydan Drullinger

School and City: Liberty School J4

Sponsor's Name: Linda Fogale

Category: Engineering

Division: Senior (grades 9 - 12)

Abstract (250 words or less):

The goal for this project was to engineer a device that would project 3D GPS lines and coordinates via sunglasses in a human's projection. Using a pair of augmented reality sunglasses (Xreal Air 2) this idea came to light. There first needs to be an understanding of how it was produced. For the initial idea multiple aftermarket GPS apps were used to get an idea of what was needed on the sunglasses. None of these apps worked great, but a good idea was given of what was essential to the design. Research was done on what glasses supported external files that could be run. After time the Xreal Air 2s were chosen. Now came the hardest part, coding. Many augmented reality applications were gone through to find the most beginner, but yet versatile app. Unity was decided on. Over three weeks courses were taken to give an idea of what will be needed for this project. Once progress was finally being made another roadblock hit. This roadblock stopped the project in its tracks. This road block was not allowing an external device to connect to the unity app. This connection was necessary to test the augmented reality shapes. After many Zoom calls and countless hours of searching on the internet there was no solution that came. With modifications still being made the device would be in its final stages very soon, but with this one roadblock. Once this roadblock is passed it will allow farmers to be more accurate in their fields.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature:

Date:

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. **A signed copy of this form must be included in your notebook.**