



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: Smart Wheels: An RC Car That Measures and Analyzes Shapes

Finalist's Name: Cuinn Archer

School and City: Mancos High School, Mancos, Colorado

Sponsor's Name: Brady Archer

Category: Engineering

Division: Senior (grades 9 - 12)

Abstract (250 words or less):

Measuring longer distances on a flat surface can be difficult, even with another person to help you, so I wanted to engineer an elegant solution to that problem. To ensure that it was a good solution, there were seven goals set. The first was having 99.5% measuring accuracy, the second to have a mode for finding area, and the third was to have a mode for non rectangular shapes. The fourth was to design and implement a steering system and the fifth to have the vehicle drive over 1 m/s. The last two were to be able to pause the measuring and to make it cost less than \$100 to make. For the project, I designed and resin printed many parts, designed circuitry, iterated on programming, and tested the final product. In the end, six of the seven goals were met, the only one not met was the 1 m/s goal. The vehicle had 99.7% measuring accuracy, a mode for area of rectangular shapes, a mode for non rectangular shapes, a self designed steering system, a pause feature and cost \$95.57 to make.

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.**