



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: Alert for upcoming Road signs and Traffic signals in advance while driving.

Finalist's Name: Eashan Palakollu

School and City: Cherry Creek Academy, Englewood

Sponsor's Name: Siva Palakollu

Category: Engineering

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

"Alert for upcoming road signs and traffic signals in advance while driving" refers to a system that uses technology to notify drivers about approaching road signs and traffic signals well before they reach them, allowing for smoother driving and improved safety by giving ample time to react to changing road conditions. The system typically employs a camera mounted on the vehicle, which captures images of the road ahead, and then uses computer vision algorithms powered by artificial intelligence to identify and classify different types of traffic signs and signals, providing an alert to the driver when a relevant sign or light is detected.

Here are some statistics of neglected road signs:

Neglected Stop Signs: In the year 2022, Nearly 70,000 accidents occur each year due to people running stop signs, and a third result in injuries in USA.

Neglected People Crossing Signs: According to the National Highway Traffic Safety Administration (NHTSA), in 2022, there were 7,522 pedestrian fatalities in the United States, which represents the number of accidents at road crossings involving pedestrians.

Neglected Deer Crossing Signs: According to the Insurance Institute for Highway Safety, there are approximately one and a half million deer-vehicle collisions in the United States each year, resulting in about 150 deaths and over \$1 billion in vehicle damage.

With my project trying to provide better solution in reducing these accidents and fatality rate with proper alert in advance for road signs where most of the people can easily ignore due to many diversions.

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.**