

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Lift-Off - Secondary Space Education (2)

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FUSION STEM PROJECT DESIGNS HEADS UP DISPLAY (HUD) FOR ASTRONAUTS

Abstract

An innovative way to study STEM fields is to create an artificial intelligence system for a heads up display (HUD) for astronauts. The project was created in Silicon Valley, inspired by Google's Robot Cars, Google Glass, the emerging commercial space industry, and the community of bikers in the Bay Area. The project miniaturizes the concept of the robot car, tested on a bicycle helmet for the goal of creating an intuitive tool for human and robotic space exploration. Most of the skills used in this exercise are acquired by students utilizing topics from high school courses. The work established in this paper outlines the design of the unit and the educational standards covered. The project uses a unique way of applying physics, mathematics, and computer programming to expand ones knowledge of all three subjects beyond the normal precipice. Led by student innovation, the STEM project incorporates 21st century skills to prepare the next generation of astronautical scientists.