Community Informed AI-Based Vehicle Technology Simulator with Behavioral Strategies to Advance Neurodiverse Independence and Employment

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Award Type: IRG [2322029]

Project Challenge

Address the transportation and employment challenges autistic adults face in the US using a cost-effective AI-based virtual driving instruction platform and a novel driving curriculum.

Intellectual Merit

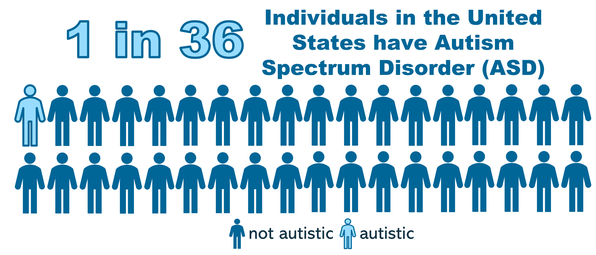
Technical Advancements: The project pioneers the optimization of AI algorithms within the simulator, pushing the boundaries of tailored driving instruction. This innovation holds promise for broader applications in technology-driven education and skill development.

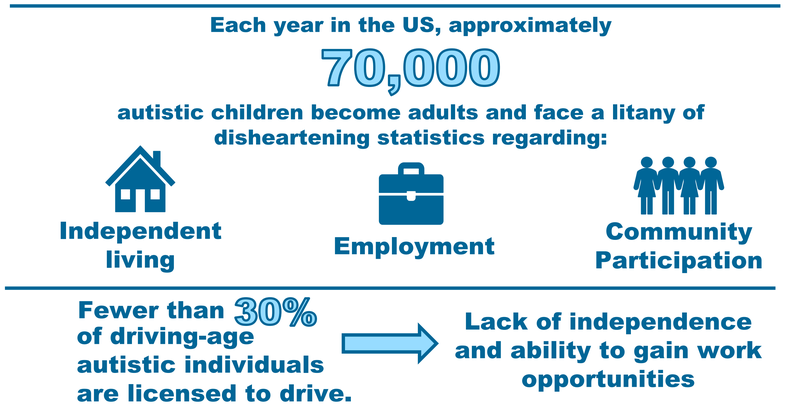
Social Advancements: By empowering autistic individuals for independent mobility and employment, our project contributes to a **more inclusive community**. Beyond transportation, the outcomes extend to influencing community planning, health, and overall well-being, fostering a society that values and accommodates neurodiversity.

Broader Impact

We learned from the community that this project addresses a problem of real significance, and that this problem will benefit from the inclusion of research to leap beyond the ways the community has worked to address this problem previously.

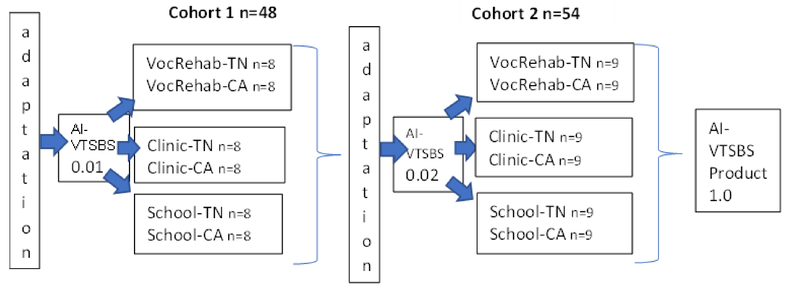
Our project immediately benefits autistic individuals, providing increased independence and employment opportunities.





Long-term impacts extend to promoting societal inclusivity, challenging stereotypes, and boosting the economy through a skilled and diverse workforce.

Major Outcomes/Progress



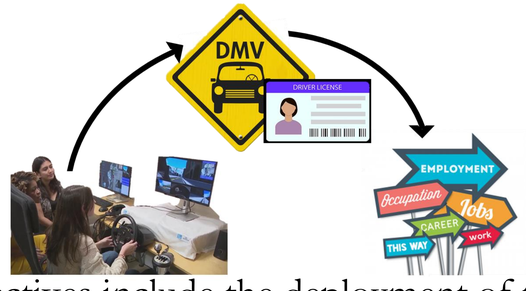
Driving Simulator:

Data collection including eye gaze, pedal information, and physiology has been developed and tested. Additionally, a detailed user manual for the community partners has been written to prepare for deployment. Technology has been shipped to Cohort 1 sites for assembly.

Driving Curriculum:

The curriculum has been completed. Manuals are printed and compiled. Training has begun with the community partners that are part of Cohort 1.

Future Goals



Key objectives include the deployment of the AI-based Vehicle Technology Simulator with Behavioral Strategies (AI-VTSBS) system, conducting six comprehensive programs in diverse settings, and obtaining valuable feedback for refinement.