PURDUE INNOVATES | Office of Technology Commercialization

HydroSight

Ultrasonic wearable alerts visually impaired swimmers as they near pool walls.

HydroSight is an assistive device developed to make swimming more accessible for those with visual impairments by detecting and alerting swimmers as they approach the pool wall. It uses ultrasonic sensors to detect the swimmer and then gives an audio cue. This allows for greater independence as it eliminates the need for human tappers. The design of the HydroSight is cost-effective, simple to set up and waterproof. It offers a solution for visually impaired swimmers at any level.

Technology Validation:

This was validated through pool tests, to determine sensor accuracy at various swimming speeds and the best placement of the sensor. Additionally, waterproofing and buoyancy were tested to ensure reliable operation in typical pool conditions.

Advantages:

-Portable

-Simple Operation

-High Accuracy

Applications:

-Community and Public Pools

-Paralympic and adaptive swimming programs

TRL: 6

Intellectual Property:

Provisional-Patent, 2024-09-24, United States

Utility-Gov. Funding, 2025-08-27, United States

Technology ID

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Category

Digital Health & Medtech/Assistive Robotics & Accessibility Systems

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