Voice Command Object Localization with Spatial Audio and IoT Devices

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ABSTRACT

• Spatial audio can be especially useful for directing human attention.
• Internet of Things (IoT) offers more connectivity and interactions with items in an environment.
• Implementing spatial audio through speakers is difficult due to crosstalk issue.
• We have created an algorithm, Xblock, that implements crosstalk cancelation for spatial audio.
• We expand upon our existing spatial audio IoT infrastructure with voice command features for object finding.

METHODS

Xblock
Algorithm that implements crosstalk cancellation technology for spatial audio.

Object Detection + Voice Commands

Example Command: “Find bag”

FUTURE WORK

• Integrate voice commands into user testing to validate Xblock’s effectiveness.
• Explore spatial audio for narrative storytelling.

REFERENCES


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