

Acoustic Data Analysis for Crowd State Inference and Influence

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Executive Statement:

An innovative framework for real-time crowd state analysis and influence through advanced acoustic data acquisition and processing.

Technology Overview:

This invention presents a novel approach to understanding and influencing crowd dynamics through the capture and analysis of acoustic signals. Utilizing either individual or directional microphone arrays, the technology focuses on extracting meaningful features from crowd noise—traditionally considered background interference—to train algorithms capable of identifying the state of a crowd. This methodology shifts the paradigm of acoustic analysis by leveraging crowd noise as a valuable signal, opening new avenues in crowd management and event safety.

Key Advantages:

- Transforms crowd noise into actionable intelligence, rather than treating it as background noise
- Employs advanced signal processing techniques for real-time crowd state analysis
- Capable of directional sound localization for precise monitoring in various environments
- Offers potential for proactive crowd management by influencing behavior with engineered acoustic signals

Problems Addressed:

- Improves real-time monitoring and management of crowd dynamics at large gatherings
- Addresses the challenge of extracting meaningful data from complex acoustic environments
- Enhances safety and response strategies for events by providing actionable insights into crowd behavior
- Overcomes limitations of existing speech recognition and localization technologies in noisy environments

Market Applications:

- Event management for concerts, rallies, and sports games
- Public safety and crowd control at protests and large public gatherings
- Enhanced surveillance systems for urban and densely populated areas

- Development of advanced crowd management strategies for entertainment and leisure industries