

PRODUCT

Voice analysis platform that captures patient voice samples to quickly identify life-threatening medical conditions that cause hoarseness

INDICATIONS

Lung cancer, vocal cord cancer, thyroid malignancies, brain tumors, vocal wellness, speech alterations

VALUE PROPOSITION

- Application in the initial detection and identification of life-threatening diseases
- Can expedite disease diagnosis and improve access to care as an ondemand, patient powered diagnostic
- Potential use as a monitoring device capable of detecting recurrent diseases and evaluating responses to therapy or surgery with speech analysis

DEVELOPMENT STAGE

System available for a developmental partner

PUBLICATIONS

N/A

CONTACT INFORMATION

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Voice Detect: A Novel Application that Detects Life-Threatening Conditions from the Human Voice

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OPPORTUNITY

While most transient vocal hoarseness results from benign causes such as acute laryngitis and self-limiting infections, prolonged hoarseness is often a presenting feature of life-threatening conditions such as lung cancer, vocal cord cancer, thyroid malignancies, and some types of brain tumors. Vocal instability is an important diagnostic feature of these conditions but is seldom captured in a consistent or clinically applicable manner. While vocal norms and baselines vary greatly across large populations of people, presently available machine learning capabilities enable the opportunity to create a large working database of voice samples that can accurately detect variances related to hoarseness and ultimately, drive accurate disease detection.

At present, there is a severe unmet need in available technologies that enable voice analysis to function as a diagnostic tool for the detection and monitoring of severe medical conditions related to hoarseness.

SOLUTION

We have developed a novel voice analysis platform that utilizes an internal algorithm to intelligently detect life-threatening disease states. This platform would rely on the collection, storage, and precise labeling of a working library of voice recordings to effectively create a system that enables the human voice to be used as a biomarker. The detection of hoarseness related malignancies often relies on tests that are invasive, cost prohibitive, and time intensive. The development of the human voice as a biomarker would create a new type of diagnostic that would be both accessible and affordable for clinicians to use in their practices.

The development of this voice analysis platform offers a first-in-class opportunity to rapidly detect, identify, and monitor life-threatening conditions that induce vocal hoarseness. As a machine learning derived system, this platform could greatly improve patient outcomes by constantly refining its internal algorithm as more patient de-identified vocal samples are collected and assessed. Other extended applications of this technology include vocal instability detection related to the diagnosis of other neurological conditions such as Parkinson's disease and Alzheimer's.