

CLOUD-BASED CARDIOVASCULAR WIRELESS MONITORING DEVICE

Tech ID: 33096 / UC Case 2023-107-0

PATENT STATUS

Patent Pending

BRIEF DESCRIPTION

Cardiovascular disease is the leading cause of death both worldwide and in the United States, with associated costs in the U.S. reaching approximately \$229 billion, each, in 2017 and 2018. Early detection, which can drastically reduce both rates of death and treatment costs, requires access to facilities and highly-trained physicians that can be difficult to access in rural areas and developing countries—despite their prevalence of cardiovascular disease. Computer-based models that use, e.g., PCG (phonocardiogram), EKG (electrocardiogram), or other cardiac data, are a promising route to bridge the gap in standard-of-care for these underserved areas. However, current algorithms are unable to account for demographic features, such as race, sex, or other characteristics, which are known to affect both the structure of the heart and presentation of heart disease.

To address this problem, UC Berkeley researchers have developed a new, cloud-based system for collecting a patient's continuous cardiovascular data, monitoring for and detecting disease, and keeping a doctor informed about the cardiac health of the patient. The system sends an alarm when disease or heart attack are detected. To generate the most accurate diagnoses by taking into account demographic information, the system includes private and ethical dataset collection and model-training techniques.

SUGGESTED USES

- » Detection of cardiovascular disease, especially in rural areas or remote populations

ADVANTAGES

- » Demographic information-informed diagnoses, including sex, race, and non-binary status
- » Cloud-based, continuous monitoring platform

RELATED MATERIALS

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OTHER INFORMATION

CATEGORIZED AS

- » **Biotechnology**
- » Health
- » Other
- » **Computer**
- » Software
- » **Medical**
- » Devices
- » Disease: Cardiovascular and Circulatory System
- » Other
- » Research Tools
- » Screening
- » Software

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