



SensCuff - A Non-Invasive Vascular Monitoring and Diagnostics Technology

Senscuff provides a means with which to non-invasively monitor a user's vascular health using standard blood pressure cuff technology and acoustic signal analysis.

Background

The Convergent Technologies Research Group within Waterford Institute of Technology in collaboration with University Hospital Waterford have conducted a study of patient Korotkoff sounds during a standard blood pressure deflation cycle.

The study has identified a vascular marker within patient K-sounds which correlates with age. It is therefore believed that this technology could potentially allow an indicator of a patient's vascular age to be determined; as compared with that of a normative population.

Further studies remain ongoing in order to identify markers for diseased patients such as those with hypertension or heart failure.

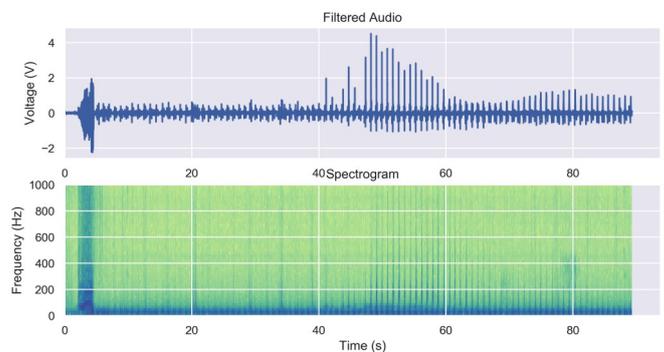
The Technology

The study was carried out using commodity hardware which is retrofittable to any standard blood pressure cuff and which includes a means for controlled deflation, a contact microphone and a data acquisition unit.

Signal analysis is carried out offline using a Python based data processing and machine learning stack.

Benefits

A primary care clinician may assess vascular health in a non-invasive manner during a routine blood pressure measurement. If the patient's vascular age indicator is indicative of cardiovascular issues may be referred for further examination at an early stage.



It is also hoped that following further studies markers for specific cardiovascular issues such as heart failure may be identified. May also have applications within a home monitoring setting for users to track their own vascular health longitudinally.

IP Status

SensCuff is Patented by WIT.
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