

# Speech recognition for improvement of career interviews

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## 1. Introduction

The algorithms mainly used for acoustic emotion recognition are kinds of Deep Learning that're data hungry, instead emotion labelled data is so small.

Also, if the model is properly created, it is not able to detect the change point of emotion and short-term emotion, because some amount of data is necessary for Supervised Learning. To research the way to avoid these problems, I tried applying unsupervised learning using acoustic features extracted from voice.

## 2. Aim

To create the machine learning model to estimate what people feel in conversation in real time by their voice and use its feedback to improve sales process.

## 3. Material and methods

Materials: Hundreds of questionnaires including how customers feel in the process of sales and their recorded conversation.

Methods: anomaly detection is applied to acoustic features extracted from voice such as raw signal, cepstral, etc.

## 4. Results

60% over detection of emotion, and 70% over in its changepoint.

## 5. Conclusions

In conclusion, unsupervised learning is useful in estimating emotion, especially in detecting the change point of emotion, and can be used for training of sales person.

## 6. Keywords

Phonetic Analysis; Emotion Recognition; Anomaly Detection

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## **7. Biography**

Kaihei Tomita has completed his degrees in Political Philosophy and Statistics in Waseda University. He is running a company which helps people fully utilize the power of cutting-edge technology-AI, Blockchain, and their business application, after working for some companies as a Senior Data Analyst and having experienced more than 50 projects.

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