

VoToNa – Voice Tone Analysis

An embedded solution to recognize emotions and intentions through voice analysis

Voice as a human-machine interface is becoming ubiquitous. But traditional speech-to-text analysis fail to recognize contextual meaning (emotions or speech intentions), that are precious to improve user experience.

DESCRIPTION*

VoToNa is an audio signal processing mobile toolkit recognizing prosody features of the voice.

Voice parameters (pitch, loudness, rhythm, sound duration, etc.) are automatically extracted from the acquired audio signal to deliver indicators with probabilities of occurrence:

- **Emotion** : arousal, valence
- **Voice tone** : normal, whispered, raised

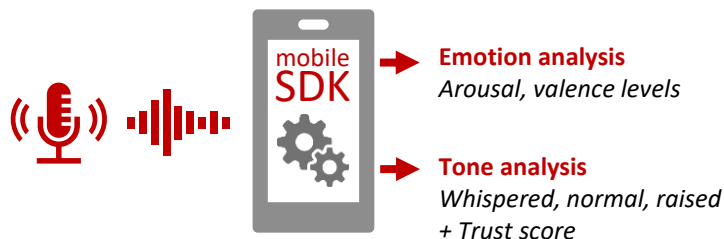
Other parameters can be extracted : intonation, speech rate, stress, short term energy, length of phoneme and pauses, etc.

The data is processed live and locally, with no network connexion required. Latency is low, inferior to 1 sec, allowing a quick reaction when a change in tonality is detected.

The toolkit can be embedded in a mobile device. Confidentially is preserved as computing is done on the device.

Given it is not based on speech-to-text but on prosody analysis, it can process any type of language or territory.

The technology can be embedded natively in mobile devices (iOS/Android).



TECHNICAL SPECIFICATIONS

Platform	iOS / Android
Language	Python
Latency	< 1sec

Actual prototype status: desktop based algorithm coded in Python. Audio source 16 bits / 16 Khz mono.

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COMPETITIVE ADVANTAGES

- Offline analysis
- No GPU required
- Embedded
- Low latency
- Language agnostic

APPLICATIONS

- Conversation analysis
- Emotion detection
- Speech tone recognition
- Voice command
- UI/UX

INTELLECTUAL PROPERTY

- Software copyrights

DEVELOPMENT STAGE

- Technology validated at lab level



LABORATORY



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