

VOICE BIOMARKERS IN NEUROLOGY AND ENDOCRINOLOGY

P. Arlos¹, L. Lundberg¹, A. Megia², J. Vendrell², J. Sidorova¹

Computer Science Department
Blekinge Institute of Technology
Sweden

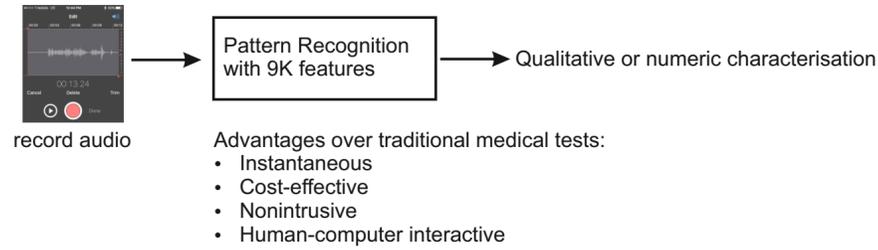
Endocrinology and Nutrition Service.
University Hospital Joan XXIII
Spain

julia.a.sidorova@gmail.com
lars.lundberg@bth.se

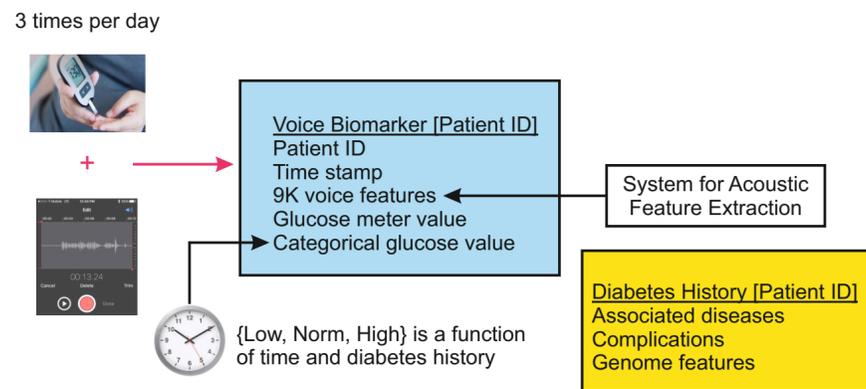
1. INTRODUCTION

A biomarker is a characteristic that is objectively measured and evaluated as an indicator of normal biological processes, pathogenic processes, or pharmacologic responses to a therapeutic intervention. A speech-based biomarker takes speech as an input and evaluates the patient's speech production (quality, competence or other aspects) at either a particular time moment or as a trend during months of rehabilitation.

Idea:



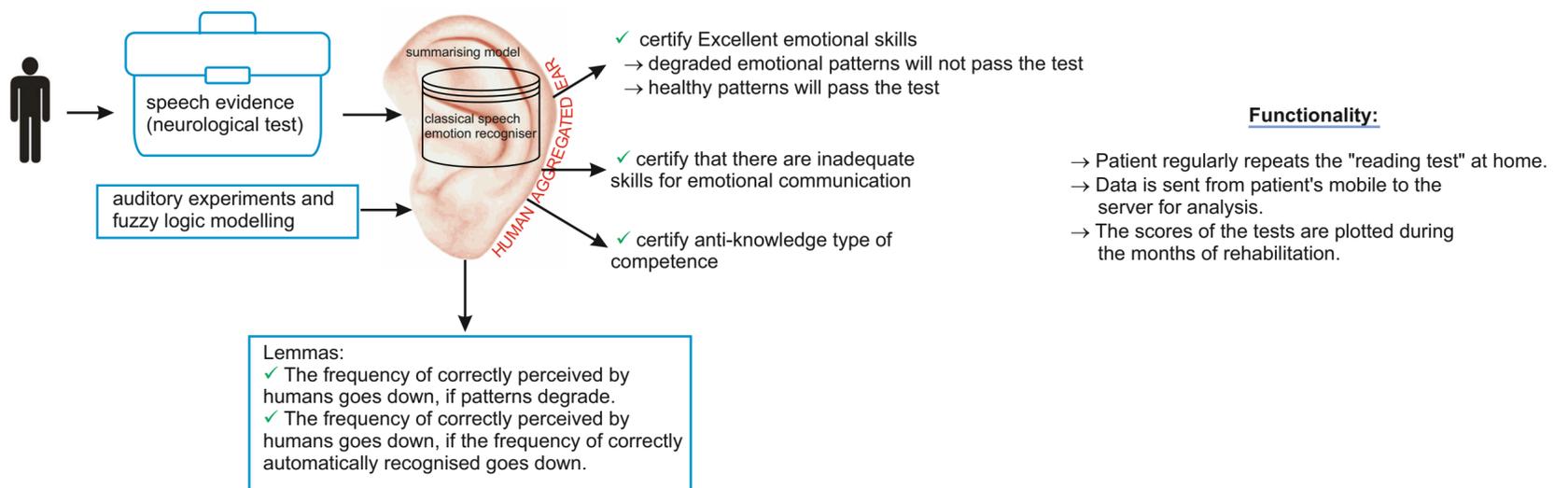
2. DIABETES DATA COLLECTION



3. MONITORING TOOL IN NEUROLOGICAL REHABILITATION

The system tracks the patient's dynamics based on the reading test

AIM: quantify skills for emotional communication in order to substitute subjective and manual assessment of competence in emotional communication.



4. CONCLUSIONS

Computational, voice-based, generic biomarker for two applications:
> Diabetes: ongoing database collection.
> Neurology: preparing for clinical trials.

5. REFERENCES

Sidorova J., Carlsson S., Rosander O., Moreno-Torres I., Berthier M. (2019), Towards disorder-independent automatic assessment of emotional competence in neurological patients with a classical emotion recognition system: application in foreign accent syndrome, IEEE Transactions on Affective Computing.