Automatic Speech Recognition System Dedicated for Polish

Mariusz Ziółko, Jakub Gałka, Bartosz Ziółko, Tomasz Jadczyk, Dawid Skurzok, Mariusz Mąsior

AGH

Department of Electronics

www.dsp.agh.edu.pl

POLSKA PLATFORMA BEZPIECZEŃSTWA WEWNĘTRZNEGO

PPBW

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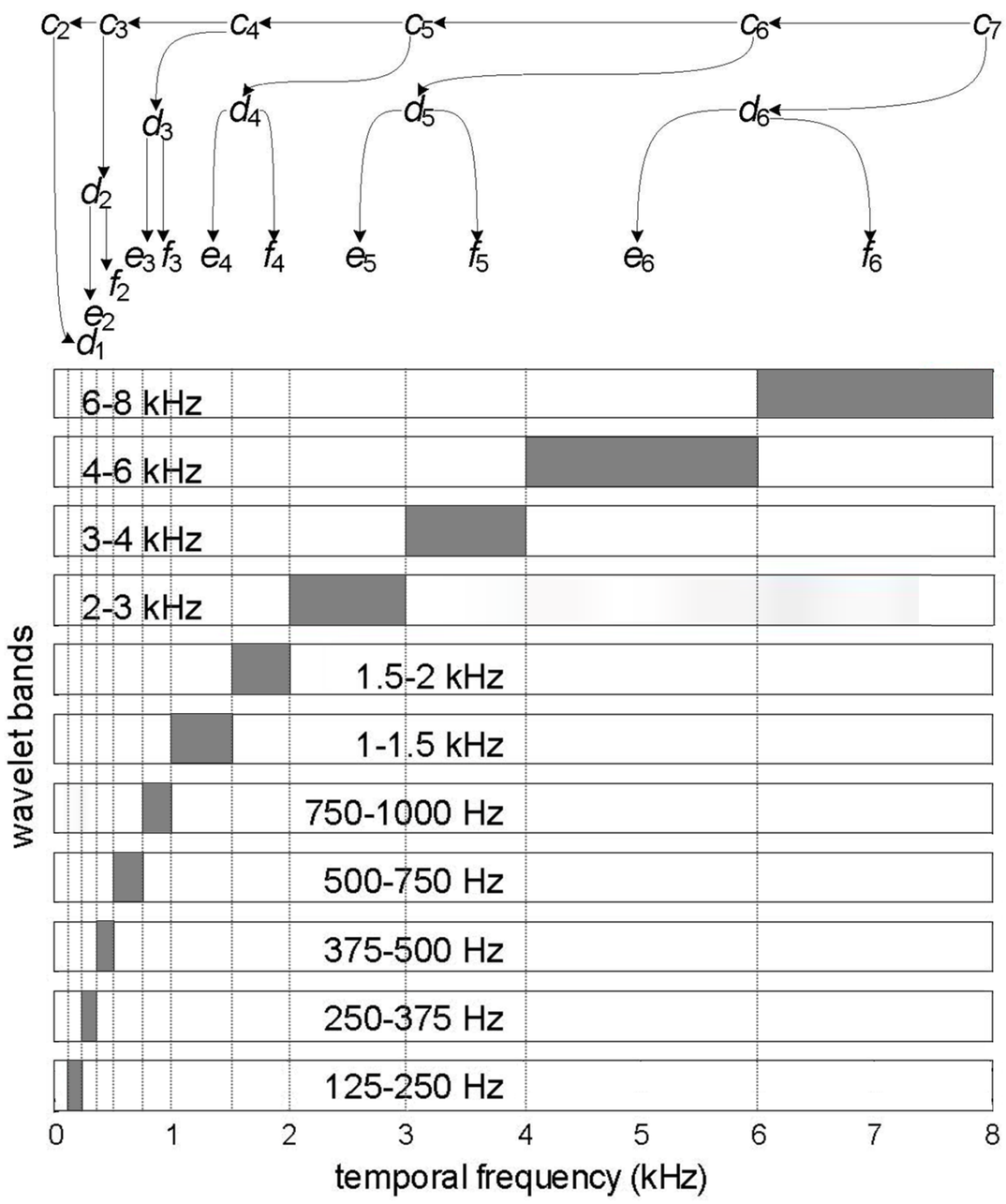
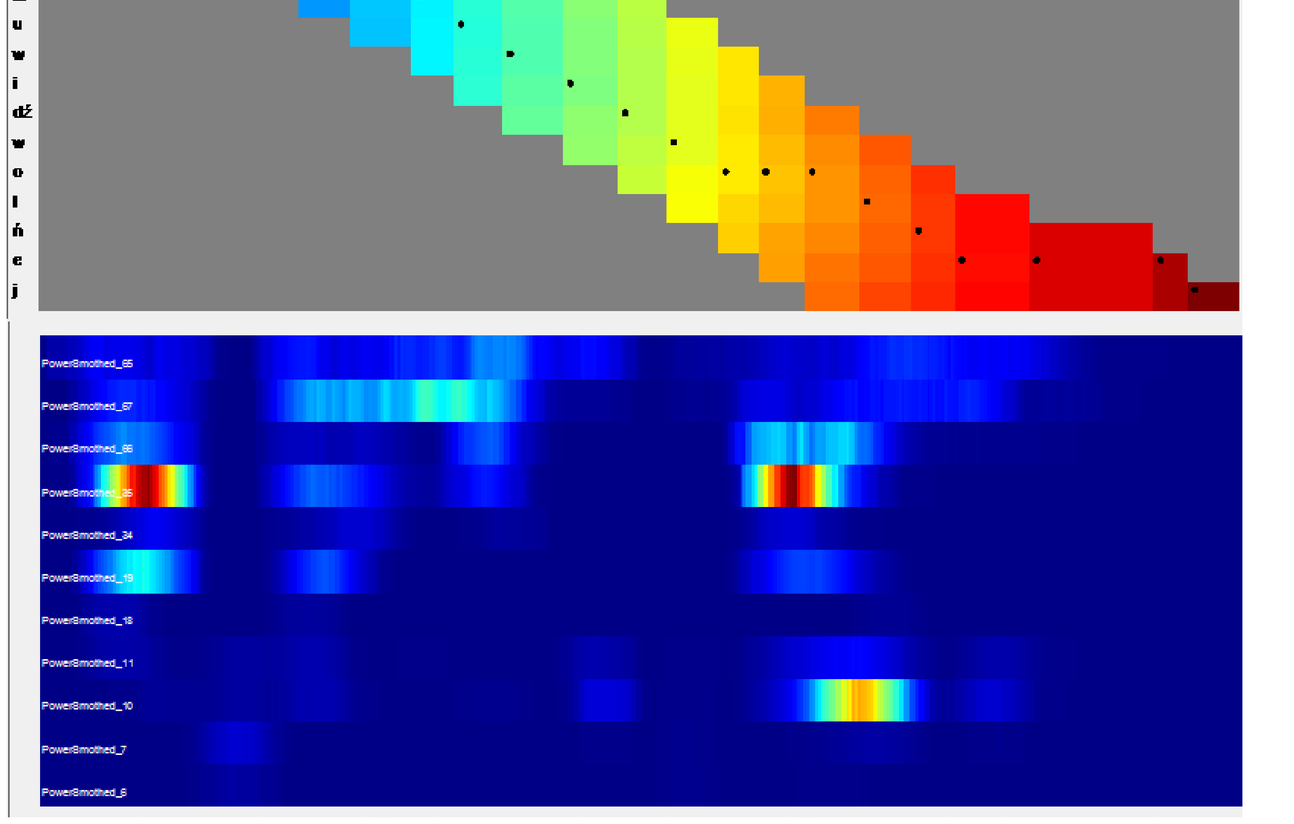
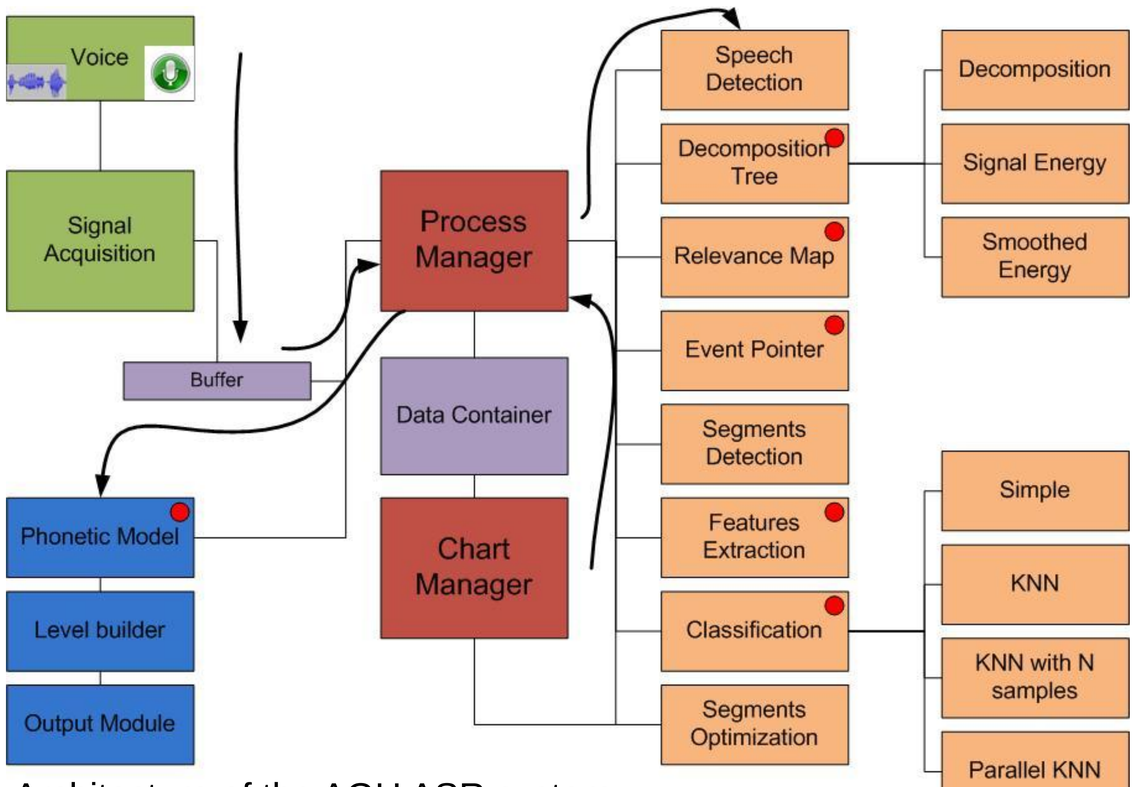
- Discrete wavelet transform (time-frequency analysis)
- Subbands optimised to frequencies of Polish
- Non-uniform segmentation into phonemes possible
- K-NN classifier
- Dedicated for courts and law enforcemement agencies



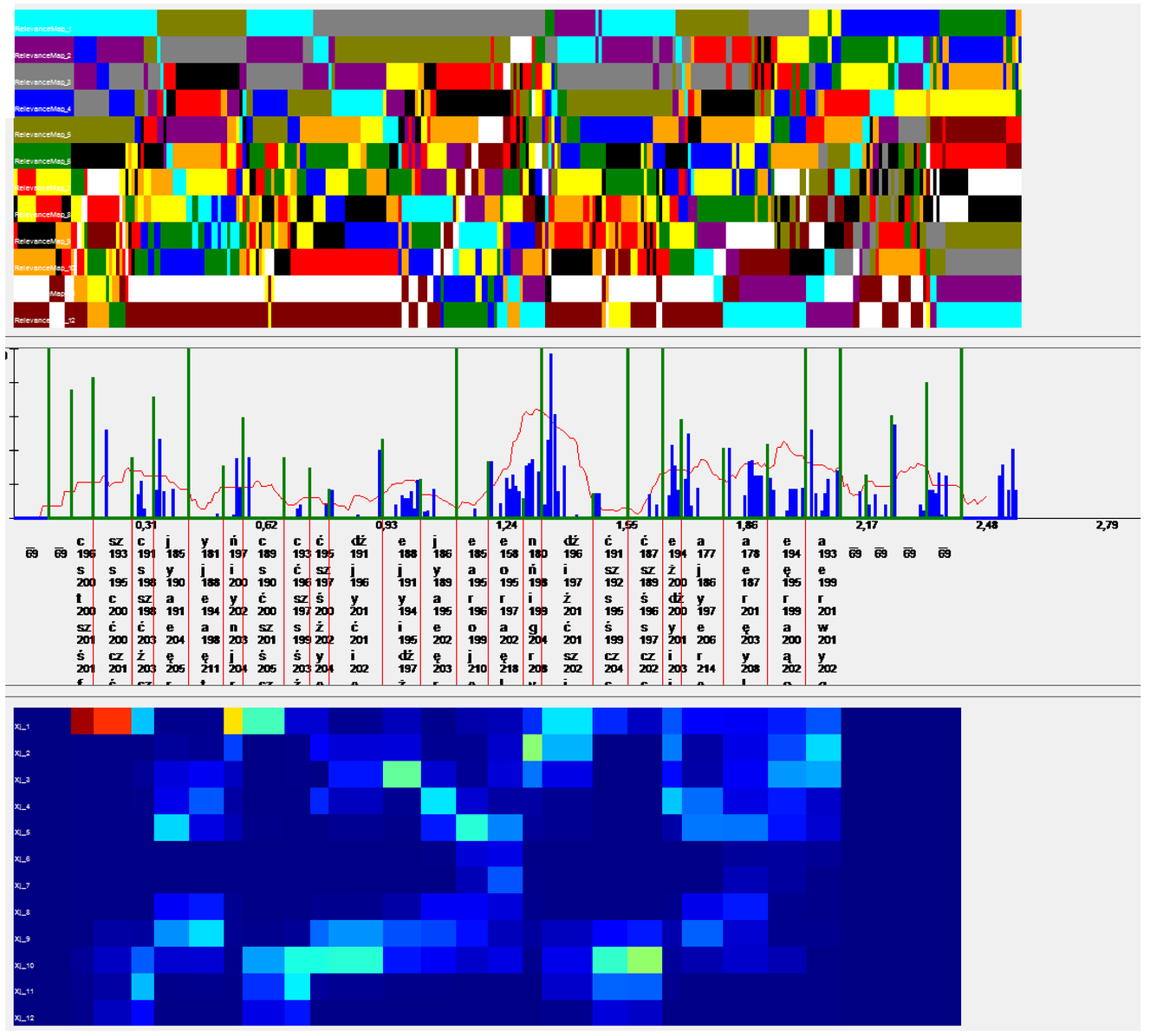
Perceptual speech feature extraction analysis, based on wavelet decomposition (upper). Temporal frequency-sweep response of the decomposition (bottom)



a) Speech waveform with phoneme hypotheses, b) Dynamic time warping (Dijkstra algorithm) to fit observed segments of parameters to phonemes in transcriptions, c) power in frequency subbands



Architecture of the AGH ASR system



a) Relevance map, b) events and segments detection, c) features