FEATURE COMPENSATION WITH SECONDARY SENSOR MEASUREMENTS FOR ROBUST SPEECH RECOGNITION (ThuAmPO4)

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Abstract :

This paper investigates the use of secondary sensor measurements to augment feature compensation methods for robust speech recognition. Secondary sensors measure secondary phenomena associated with human speech production. While such measurements do not provide sufficient information for speech recognition per−se, they do not degrade with the noise that corrputs the acoustic signal and can be used to guide algorithms that attempt to estimate noise compensation algorithms by restricting the region of the acoustic space within which the recorded speech must lie. In this paper we specifically, we investigate the use of measurements obtained from a Glottal ElectroMagnetic Sensor (GEMS) to improve the noise estimation performance of the Vector Taylor Series algorithm. We and show that this can result in significant improvement in performance of the VTS algorithm, and, consequently, recognition performance.

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