

Information Measures in Automatic Speech Recognition

In this study a new approach to the front-end stage of an automatic speech recognition (ASR) system is introduced. One dimension, which takes into account nonlinearities and dynamical changes of speech signal by means of the evaluation of a complexity measure, is added to a classical homomorphic speech analysis. We contrast the performance of a classical ASR system front-end and the ones obtained including these information measures in the presence of additive noise.

Hugo L. Rufiner
Universidad Nacional de Entre Ríos
Facultad de Ingeniería
C.C. 47 Suc. 3
3100 Paraná (E.R.)
Argentina
cyberlab@fi.uner.edu.ar

María E. Torres
Universidad Nacional de Entre Ríos
Facultad de Ingeniería
C.C. 47 Suc. 3
3100 Paraná (E.R.)
Argentina
metorres@ceride.gov.ar

Lucas Gamero
Universidad Nacional de Entre Ríos
Facultad de Ingeniería
C.C. 47 Suc. 3
3100 Paraná (E.R.)
Argentina
lgamero@satlink.com

Diego H. Milone
Universidad Nacional de Entre Ríos
Facultad de Ingeniería
C.C. 47 Suc. 3
3100 Paraná (E.R.)
Argentina
dmilone@ieee.org