Ming Hsieh Department of Electrical Engineering



School of Engineering Noise Aware and Combined Noised Models for speech denoising in Uknown Noise Conditions

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Motivation

- Applications working in real Environments
- Background Noise can change
- No prior knowledge about noise \bullet
- Design a system that can operate lacksquare
 - In different noise conditions ${ \bullet }$
 - In different Signal to Noise Ratios (SNR)

Nonnegative Matrix Factorization



Dictionary Selection

- Use another dictionary to compensate for the missing one
- **Dictionary Selection using** \bullet **KNN on LTSV features**

Combined Dictionary

- Use all the available information to compensate for the missing noise
- Create a dictionary using all the noises at our disposal





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