Robust Automatic Speech Recognition A Bridge To Practical Applications

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Robust Automatic Speech Recognition A

Robustness In Automatic Speech Recognition: Fundamentals ...
Robust Automatic Speech Recognition: A Bridge to Practical Applications establishes a solid foundation for automatic speech recognition that is robust against acoustic environmental distortion It provides a thorough overview of classical and modern noise-and reverberation robust
Robust Automatic Speech Recognition A Bridge To Practical ...
PAGE #1 : Robust Automatic Speech Recognition A Bridge To Practical Applications By Irving Wallace - the strengths and weaknesses of robust enhancing speech recognition techniques are carefully analyzed and a guide to selecting the best methods for practical applications is provided
Imperio: Robust Over-the-Air Adversarial Examples for ...
Imperio: Robust Over-the-Air Adversarial Examples for Automatic Speech Recognition Systems Lea Schönherr, Thorsten Eisenhofer, Steffen Zeiler, Thorsten Holz, and Dorothea Kolossa Ruhr University Bochum
{leaschoenherr,thorsteneisenhofer,steffenzeiler,thorstenholz,dorotheakolossa}@rubde …
Imperceptible, Robust, and Targeted Adversarial Examples ...
Imperceptible, Robust, and Targeted Adversarial Examples for Automatic Speech Recognition into an encoder consisting of a stack of convolutional and LSTM layers, which conditions an LSTM decoder that out-puts the transcription The use of the sequence-to-sequence framework allows the entire model to be trained end-to-end

AN AUDITORY-BASED FEATURE FOR ROBUST SPEECH ...

der such conditions, robust automatic speech recognition remains a challenging problem [1,14] Automatic speech recognizers (ASRs) are typically trained on clean speech and face the mismatch problem when tested in the presence of interference To tackle this robustness problem, speech enhancement meth-

A Joint Training Framework for Robust Automatic Speech ...

796 IEEE/ACM TRANSACTIONS ON AUDIO, SPEECH, AND LANGUAGE PROCESSING, VOL 24, NO 4, APRIL 2016 A Joint Training Framework for Robust Automatic Speech Recognition

Attention-based Audio-Visual Fusion for Robust Automatic ...

Exploiting both modalities in the context of Automatic Audio-Visual Speech Recognition (AVSR) has been a challenge One reason is the inconclusive research on what are good visual features for Large Vocabulary Continuous Speech Recognition (LVCSR) [14] that match the well established Mel-frequency cepstral coefficients for acoustic speech

Speech-Based Automatic and Robust Detection of Very Early ...

Speech-Based Automatic and Robust Detection of Very Early Dementia Aharon Satt 1, Ron Hoory 1, Alexandra König 2,4, Pauline Aalten 4, Philippe H Robert 3 1 IBM Research – Haifa, Israel 2 University of Nice Sophia Antipolis, France 3 Centre Mémoire de Ressources et de Recherche, CHU de Nice, Nice, France 4 Maastricht University Medical Center, Maastricht, Netherlands

Early Auditory Processing Inspired Features for Robust ...

In this paper, we derive bio-inspired features for automatic speech recognition based on the early processing stages in the human auditory system The utility and robustness of the derived features are validated in a speech recognition task under a variety of noise conditions First, we develop an auditory based feature by replacing the

2190 IEEE TRANSACTIONS ON AUDIO, SPEECH, AND ...

Robust Speech Rate Estimation for Spontaneous Speech Dagen Wang and Shrikanth S Narayanan, Senior Member, IEEE Abstract—In this paper, we propose a direct method for speech rate estimation from acoustic features without requiring any automatic speech …

Generative Modeling of Pseudo-Whisper for Robust ...

In addition to speech recognition, whispered speech pro-cessing has also been considered for speaker identification [8], [9], [22], automatic whisper island detection [7], and modal speech synthesis from whisper [4] In this study, our focus is on the design of effective low resource strategies that would alleviate the mismatch between

Imperceptible, Robust, and Targeted Adversarial Examples ...

Imperceptible, Robust, and Targeted Adversarial Examples for Automatic Speech Recognition pable of attacking a modern, state-of-the-art Lingvo ASR system (Shen et al,2019) 2 Related Work We build on a long line of work studying the robustness of neural networks This research area largely began with

FUSIONOFDIVERSEDENOISINGSYSTEMSFORROBUSTAUTOMATICSPEECH ...

IndexTerms— Robust Large Vocabulary Speech Recognition, Speech Enhancement, Diversity, ROVER 1 INTRODUCTION Current state-of-the-art speech recognition systems manage to achieve excellent recognition rates when applied to clean non-distorted speech However, it is commonly observed that ASR per-

TOWARDS ROBUST AUTOMATIC EVALUATION OF ...

TOWARDS ROBUST AUTOMATIC EVALUATION OF PATHOLOGICTELEPHONE SPEECH K Riedhammer 1, G Stemmer 2,THaderlein1,3, M Schuster 3, F Rosanowski 3,ENoth¨ 1,AMaier1,3 1 Lehrstuhl f¨ ur Mustererkennung, Universit¨ at Erlangen-N¨ urnberg Martensstraße 3, 91058 Erlangen, G ERMANY maier@informatikuni-erlangende

IEEE TRANS. AUDIO, SPEECH, AND LANGUAGE PROCESSING, ...

robust ASR techniques in practical application scenarios are provided as a guide to interested practitioners The current challenges and future research directions in this field is also carefully analyzed I INTRODUCTION Automatic speech recognition (ASR) is the process and the related technology for converting the speech signal into its

Exemplar-based sparse representations for noise robust ...

robust automatic speech recognition Jort F Gemmeke*, Student-Member, IEEE, Tuomas Virtanen, Antti Hurmalainen Abstract—This paper proposes to use exemplar-based sparse representations for noise robust automatic speech recognition First, we describe how speech can be modelled as a linear combination of a small number of exemplars from a large

Domain Adaptation Using Factorized Hidden Layer for Robust ...

robust automatic speech recognition Section 3 describes the factorized hidden layer (FHL) adaptation method and its appli-cation to domain adaptation Section 4 presents the experimen-tal setup and results 2 Domain Robustness Automatic speech recognition systems are sensitive to the data mismatch problem where the characteristics of the data

Recurrent Neural Networks for Noise Reduction in Robust ASR

Robust automatic speech recognition (ASR), that with background noise and channel distortion, is a fundamen-tal problem as ASR increasingly moves to mobile de-vices Existing state-of-the-art methods for robust ASR use specialized domain knowledge to denoise the speech signal [1] or train a word-segment discriminative model robust to noise [2]