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## Speech Recognition Using the Mellin Transform (Paperback)

By Air Force Institute of Technology

Createspace, United States, 2014. Paperback. Condition: New. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.The purpose of this research was to improve performance in speech recognition. Specifically, a new approach was investigating by applying an integral transform known as the Mellin transform (MT) on the output of an auditory model to improve the recognition rate of phonemes through the scale-invariance property of the Mellin transform. Scale-invariance means that as a time-domain signal is subjected to dilations, the distribution of the signal in the MT domain remains unaffected. An auditory model was used to transform speech waveforms into images representing how the brain sees a sound. The MT was applied and features were extracted. The features were used in a speech recognizer based on Hidden Markov Models. The results from speech recognition experiments showed an increase in recognition rates for some phonemes compared to traditional methods.



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