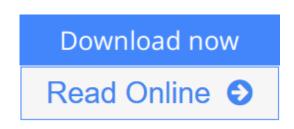


# Speech Enhancement: Theory and Practice (Signal Processing and Communications)

By Philipos C. Loizou



**Speech Enhancement: Theory and Practice (Signal Processing and Communications)** By Philipos C. Loizou

The first book to provide comprehensive and up-to-date coverage of all major speech enhancement algorithms proposed in the last two decades, **Speech Enhancement: Theory and Practice** is a valuable resource for experts and newcomers in the field. The book covers traditional speech enhancement algorithms, such as spectral subtraction and Wiener filtering algorithms as well as state-of-the-art algorithms including minimum mean-squared error algorithms that incorporate signal-presence uncertainty and subspace algorithms that incorporate psychoacoustic models. The coverage includes objective and subjective measures used to evaluate speech quality and intelligibility.

Divided into three parts, the book presents the digital-signal processing and speech signal fundamentals needed to understand speech enhancement algorithms, the various classes of speech enhancement algorithms proposed over the last two decades, and the methods and measures used to evaluate the performance of speech enhancement algorithms. The text is supplemented with examples and figures designed to help readers understand the theory. MATLAB<sup>®</sup> implementations of all major speech enhancement algorithms and a speech database that can be used for evaluation of noise reduction algorithms are available for download on the book's description page at the CRC Press website.

Providing clear and concise coverage of the subject, the author brings together a large body of knowledge about how human listeners compensate for acoustic noise when in noisy environments. This book is a valuable resource not only for engineers who want to implement the latest speech enhancement algorithms but also for speech practitioners who want to incorporate some of these algorithms into hearing aid applications for speech intelligibility and/or quality improvement.

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