

Recent Advances in Signal Processing for Mobile Computing

by

Dr. Henrique MALVAR, Distinguished Engineer and Chief Scientist

Microsoft Research

Redmond, Washington

Abstract:

Modern computing and communication devices and systems rely strongly on signal processing technologies. In this lecture, we discuss recent advances in signal processing, in particular as applied to the development of new capabilities and services in mobile computing. Thanks to the increasing computing power of our mobile devices, as well as the increasing bandwidth of Internet connectivity, new scenarios and user experiences are now possible, such as recognizing the environment and people around us, to better inform and guide us, overcoming barriers of language and disabilities. Those have been enabled by significant advances in signal filtering, classification, machine learning, as well as new computing system architectures for multi-core and low-power computation.