Recent Developments in Signal Processing for Audio and Music

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Abstract:

A selection of enabling and significant recent developments in music/audio signal processing will be highlighted. Developments considered fall into three categories: (1) new hardware such as tablet computers having powerful processors and expressive touch-screens, (2) domain-specific software such as the Faust language for audio signal processing, and (3) theory/architecture advances such as higher-order nonlinear or topologically complex Wave Digital Filters (WDF), convex formulations of system modeling problems, and Scattering Delay Networks (SDN) for efficiently simulating acoustic spaces in real time.