



Automatic Speech Recognition and Recent Advances with Deep Learning

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The technology of automatic speech recognition (ASR) has become a fixture in our daily life. Its use, ranging from voice dialing with our cell phones and location search with GPS (global positioning system) in our cars, to smart speakers in our homes, has succeeded in helping people in different ways, many of which are beyond our expectations. The working technology is a result of decades of research in physics, speech science, mathematics, and lately artificial intelligence. In this tutorial, we review the underlying technology and how various scientific fields have contributed to the state of the art. We further explain the role of deep neural networks (DNN) in the latest ASR systems.