

Survey on Deep Neural Networks in Speech and Vision Systems

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Abstract

This survey intend to review usage of Deep Neural Networks (DNNs) methods, algorithms and architectures in vision and speech applications. We study background, evolution, current trend, challenges and future modernization of numerous DNN model for intelligent vision and speech systems.

Recently, there are lot of advances and innovations happening in this field using DNNs. With availability of vast amount of sensor data, cloud computing to process and train DNN, the next generation intelligent system will revolutionize personal and commercial computing.

Intelligent vision and speech systems research and development effort has evolved over years. An emphasis is provided for low latency, robust and efficient intelligent systems with Deep Neural Networks. Every hardware has limitation within its boundaries regarding battery life, memory and processor. This survey details key challenges and success in running DNNs on hardware-restricted platforms.

We also touch upon emerging DNNs trend in industry for vision and speech applications. This surveys summarizes latest developments in intelligent vision and speech applications in both software and hardware systems. Many of these emerging technologies using deep neural networks show tremendous promise to revolutionize research and development for future vision and speech systems.

Survey Paper Link: <https://arxiv.org/abs/1908.07656>