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Applications of machine learning: Developing natural language processing technology for South Africa's official languages

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Recent developments in the field of machine learning (ML) have been influenced by advances in computational technology as well as the availability of large volumes of data. One field in which progress has been accelerated substantially is Natural Language Processing (NLP). NLP is a broad research field including topics such as natural language understanding and natural language generation. The aim of research in this field is to enable natural language interaction between humans and machines.

This talk will present some of the ML techniques involved in NLP and will provide a brief overview of how things have changed as a result of Big Data and Huge Machines. The development of automatic speech recognition (ASR) technology will be presented as a case in point with specific emphasis on efforts to develop ASR technology for the 11 official languages of South Africa during the last 20 years.

HPC content

Huge volumes of data and matching processing capacity are required to implement state-of-the-art NLP systems. NLP researchers in South Africa are just beginning to explore the possibilities offered by HPC facilities.

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