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Merging Linguistic Insights and Tools with Deep Learning

Over the centuries, linguistics has built a highly structured system that capture the growing understanding of the specific subsystems of language as found in texts, speech and interaction. In the past few decades, speech and language processing has built specialized tools that (more or less) solve the individual tasks in this system and that can be combined to build larger language-processing systems. In the past few years, end-to-end deep learning has used very large amounts of data to replace most of this tooling when building full systems. In my presentation I will discuss how a re-integration of linguistic knowledge into end-to-end systems can radically boost performance or reduce the need for training data for specific tasks such as voice likability assessment or in the classification of post-modern poetry.