Deep Learning for Natural Language Processing

The goal of the course to make you the best Natural Language researcher and practitioner wherever you go next.

"Deep Learning waves have lapped at the shores of computational linguistics for several years now, but 2015 seems like the year when the full force of the tsunami hit the major Natural Language Processing (NLP) conferences" (Chris Manning).

Natural language processing (NLP) is taking an increasingly dominant part in artificial intelligence today. Its applications are increasingly appearing in many fields and technologies: web search, advertisement, emails, customer service, language translation, radiology reports, etc.

The field of NLP is rich with many underlying tasks – words representations, relation extraction, semantic parsing and more. The machine learning community is thriving with elegant solutions to some of those tasks. Recently, deep learning approaches have obtained very high performance across many different NLP tasks. In this course we will deep dive to the cutting-edge research in NLP and focus on the latest advances in the application of deep learning in the field.


In this course we will learn to implement, train, debug, visualize and invent neural network models. We will have both HW and a final project that will involve training a complex recurrent neural network and applying it to a large-scale NLP problem. On the model side we will cover word vector representations, window-based neural networks, recurrent neural networks, long-short-term-memory models, recursive neural networks, convolutional neural networks as well as some very novel models involving a memory component.