Natural Language Processing 21-22

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Positioning NLP in the manifesto

NLP is delivered in the

NLP is delivered in the 2° year of the DATA SCIENCE & ENGINEERING - ARTIFICIAL INTELLIGENCE curriculum

You can also insert it in your study plan to fill your free credits

The rationale behind this course

What is NLP and why do we need it

(SAS insight)

https://www.sas.com/en_us/insights/analytics/what-is-natural-language-processing-nlp.html

The rationale behind this course

Large volumes of textual data

Natural language processing helps computers communicate with humans in their own language and scales other language-related tasks. For example, NLP makes it possible for computers to read text, hear speech, interpret it, measure sentiment and determine which parts are important.

Today’s machines can analyze more language-based data than humans, without fatigue and in a consistent, unbiased way. Considering the staggering amount of unstructured data that’s generated every day, from medical records to social media, automation will be critical to fully analyze text and speech data efficiently.

The rationale behind this course

Structuring a highly unstructured data source

Human language is astoundingly complex and diverse. We express ourselves in infinite ways, both verbally and in writing. Not only are there hundreds of languages and dialects, but within each language is a unique set of grammar and syntax rules, terms and slang. When we write, we often misspell or abbreviate words, or omit punctuation. When we speak, we have regional accents, and we mumble, stutter and borrow terms from other languages.

While supervised and unsupervised learning, and specifically deep learning, are now widely used for modeling human language, there’s also a need for syntactic and semantic understanding and domain expertise that are not necessarily present in these machine learning approaches. NLP is important because it helps resolve ambiguity in language and adds useful numeric structure to the data for many downstream applications, such as speech recognition or text analytics.

The structure of the course

Levels of linguistic analyses

Pragmatics: what does it do?

Semantics: what does it mean?

Syntax: what is grammatical?

natural language utterance

How will your competencies be evaluated?

Let's have a look at the AulaWeb module...

Schedule

Let's have a look at the AulaWeb module...