

# Natural Languages Understanding and Generation

## Extended Resources

1. <https://www.youtube.com/watch?v=fOvTtapxa9c>

A quick video that summarizes the need for Natural Language Processing and gives a high-level overview of how some systems implement it. The video also goes slightly into the history of NLP and describes speech recognition's importance in the process of NLP

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2. <https://www.youtube.com/watch?v=MNvT5JekDpg>

In this video, two Googlers talk about Natural Language Generation and how it is implemented at Google in applications like Google Assistant. The video is good for understanding the applications of NLG, though more specifically, Machine Learning backed NLG.

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3. <https://narrativescience.com/resource/blog/what-is-natural-language-generation>

A brief article that breaks down Natural Language Generation, its difference with NLP, as well as potential future applications of this technology. The article also touches on other technologies' reliance on innovation in the field of Natural Language Generation for the implementation of user communication

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4. <https://www.forbes.com/sites/danwoods/2015/07/09/why-big-data-needs-natural-langug>

This article briefly goes over the history of human language rendering before moving on to talk about the uses of Natural Language Generation in the field of Big Data. It also talks about the importance of context when trying to not only understand but also generate natural language and how semantic engines in this endeavor by breaking down the process into different types of analysis.

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5. [https://www.youtube.com/watch?v=4q3H\\_ZN01kk](https://www.youtube.com/watch?v=4q3H_ZN01kk)

In this video, a person will thoroughly explain about the Markov chain, what it is, how it was created, example, and use cases.

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6. <https://www.youtube.com/watch?v=5vcj8kSwBCY>

In this video, a professor from Stanford University named Christopher Manning explains about transformers and self-attention.

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7. [https://www.youtube.com/watch?v=EzDgw4\\_gCVU](https://www.youtube.com/watch?v=EzDgw4_gCVU)

This video shows multiple use cases of NLP in the Healthcare industry, such as lowering patient waiting times by using NLP to process patient forms and using Named Entity Recognition alongside Deep Learning technologies to aid with medical diagnosis

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8. <https://becominghuman.ai/8-thought-provoking-cases-of-nlp-and-text-mining-use-in-business-60bd8031c5b5>

This article talks briefly about 8 different modern use cases for NLP. Some of the use cases on here are quite common, but a lot of them are different and very interesting. The article also does a good job of giving exact figures for the impact of NLP in these technologies

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9. <https://www.dataversity.net/a-brief-history-of-natural-language-processing-nlp/>

This fascinating article gives you a brief, yet detailed history of Natural Language Processing all the way back to the early 1900s. It breaks down the stages that NLP has gone through to get to where it is today, and really shows how much time, energy, and effort has been put into this field of Machine Learning.

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10. <https://lance-eliot.medium.com/natural-language-processing-nlp-for-in-car-voice-discussion-with-riders-of-driverless-cars-26f34b0248e8>

This article talks about the many use cases for In-Car Voice recognition and understanding services. It also briefly talks about the drawbacks as well as impact on the safety of drivers that NLP/NLU has had in the automotive industry. The article is also heavily focused on telling the reader how self driving cars will utilize Natural Language Generation to communicate with its passengers.

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11. <https://www.synaptiq.ai/machine-learning-nlp-for-vehicle-book-matching/>

This Case Study talks about a specific use of NLP and Machine Learning in the automotive industry to better understand the value of used cars. Because different people describe things in different ways, this article talks about how NLP was used to decipher different descriptions and help automate the process of used car appraisals.

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12. <https://analyticsindiamag.com/how-mercedes-benz-is-using-ai-nlp-to-give-driving-a-tech-makeover/>

This article describes how Mercedes-Benz is implementing NLP in their vehicles to enhance the user's experience in their automobiles by making their in house voice assistant, MBUX, have more features. One of the key features is that MBUX can create a better relationship with its driver by "routine to make personal predictions and offer appropriate recommendations".

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13. <https://www.the-learning-agency-lab.com/the-learning-curve/how-npl-will-change-education>

This article touches on NLP in the context of education, and how it can improve learning for students in Behavior & Motion and Reading & Writing. It talks about what metrics can be used to measure NLP's impact in these areas, as well as the individual impact it has on students.

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