**Natural language processing**

**I. Definition and a little history**

The initial definition of “Natural language processing” can be considered as another area of computing extended from linguistic, computer science and artificial intelligence which goes into the interaction between machines and the human language. Particularly in how to program a computer so that it could understand and process natural language

This fundamentals of this particular area in IT dates all the way back from the 1950s, when Alan Turing published an article titled “Computing machinery and intelligence”, introducing the whole concept to the public with one question “Can machines think?”, resulting to what we know today as the “Turing test”

**II. Main content**

*What does Natural language processing do and its relations to chatterbots*

Initially, you could think traditional Rule-based bots that only rely on option buttons, yes-no questions, keyword recognition, and quick answer suggestions can already generate exceptional answers to human’s question, but NLP (natural language processing) still pays an important role in the matrix of bots development.

To explain what NLP, we can take the example of one of its very famous uses, which is the auto-correcting system found in almost every devices that you use to type words on, especially documenting and texting. This kind of software not just identify and correct the mistakes you make while typing, it can also predict or guess which words you want to type in next. This is achieved by giving the software a massive library of information and data about the language that we use, words, phrases, different sentences or even live transcripts of conversations or emails. And with this overtime, the machine itself could learn how to assemble the words together into meaningful sentences, and make sense of what we’re trying to deliver. But, all that is of course still much more simple than being able to naturally respond to a conversation with a human being.

Despite that, a computer’s understanding of natural language happens through the analysis of text or speech input using a hierarchy of classification models:

**+ Domain classifier**: divide a human’s input into sections into a pre-set group of conversational domains. This particular solution is only necessary for processing a conversation in which contains various different topics, each needing specialized vocabulary. One famous example of the ability to classify domains being essential for an AI is the virtual assistant Cortana of Microsoft. Domain classifiers seen from assistants such as Cortana are likely to include the weather, news, music and many others