Research Assessment #10

Date: 31 January, 2020

Subject: Natural Language Programming and Machine Learning

APA citation:

Rahit, K. M. T. H., Nabil, R. H., & Huq, H. (2019, October 25). https://arxiv.org/pdf/1910.11471.pdf. Retrieved January 31, 2020, from https://arxiv.org/pdf/1910.11471.pdf

Assessment:

This week I researched more about Natural Language Programming, the process of coding using natural language. This research was directly related to my final product since I am planning to make a program that enables the conversion of natural language to code. Before beginning to code the actual program, I need to learn more about Natural Language Programming to understand some basic things- how to set the boundaries for the conversion, what programming to use for the coding, what programming language to use for the conversion, and how to form an algorithm to enable the conversion. Thus, I decided to research Natural Language Programming to answer these questions.

First, the article mentioned the benefits of Natural Language Programming, turning the focus of programming to logic rather than syntax. This ended up reinforcing my motivation for pursuing this final product. If I can make programming easier for people to work with, I can enable a larger amount of people to gain access to the field and reap its benefits. Programming has applications in every field possible, but its lack of implementation in most fields is reflective of the difficulty of learning computer science for newcomers. By facilitating this learning I hope to make computer science more accessible to newcomers. Another point presented in the article was that the use of Natural Language Programming prevents the burden of learning different programming languages for programmers. With over a

thousand programming languages, allowing a universal language for programmers to use while coding will get rid of unnecessary transitions from one language to another.

One of the most interesting ideas from the article that stuck out to me was the notion that programming languages are just like normal languages with a limited vocabulary. Statements of code have very specific meanings, just like statements in normal languages. This implies that some aspects of Natural Language Programming must be similar to Machine Translation. This is important as this connection can form a basis or foundation for my future research into beginning the program. By handling the conversion in a manner similar to translation between languages could open up the possibilities for algorithmic approaches and further enlighten me with a solution through these approaches. The article also highlighted the merits of the Statistical Machine Translation approach to Natural Language Programming, and details to implement this approach. This was important to me as it allowed me to gain a relative idea of the steps I will need to take when making my program and devising my algorithm.

This research assessment has enlightened me and further prepared me for future researches into the field of Natural Language Programming and Machine Translation. By helping connect the subfield to another I am more familiar with, the article enabled me to view my final product in a different light and realise that there are an even greater number of possibilities for solutions to the conversion algorithm. This assessment also cemented my decision on my final product by reinforcing the benefits of such algorithms.