



INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

UNIVERSITY OF WESTMINSTER (UOW)

BEng.(Hons) in Software Engineering

Final year Project 2017/2018

Project Report

For

iCoder – A coding platform with Natural Language Processing

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Abstract

At present, with fast moving software industry, delivering software products in quick succession is very challenging due to various aspects. Some of the main challenges are the lack of experience in programming language for developers, difficulty in understanding programming languages and best practices. In this paper it expresses how to integrate natural English language to implement software related products instead of any programming language. The proposed solution talks about how to use Natural Language Processing (NLP) and Machine Learning algorithms to generate programming language syntaxes over user's needs. In implementing the proposed solution Natural Language Processing principles like Chunking, Chinking, Part of Speech Tagging (POS Tagging), Named Entity Recognition (NER) and Lemmatizing has been used. Apart from that Machine Learning algorithms like Naïve Bayes (NB), Logistic Regression, Support Vector Machine (SVC) has been used as classification algorithms to fine tune the output. The main focus on this project in terms of the programming language is Structures Query Language (SQL). In another words, the paper will be talking how to integrate both NLP and Machine Learning methodologies to build SQL queries.

Keywords: Natural Language Processing (NLP), Machine Learning, Structured Query Language (SQL)