## Abstract

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# Embedded C++ Predictive Text Classifier for User Interface design to STM32F4 MCU

Ref: Abid/BE/UG (ECE)/Project-2

AI Predictive text parsers enable user to interact with the systems with much more ease and comfort. The proposed project is an attempt that allows the student to apply the concept of object-oriented programming being learnt in desktop computer systems to microcontroller. SMT32Fxx is selected as the target microcontroller and a standard LCD and keypad were interfaced to it using the GPIOs to provide menu-based user interface. The first phase of the project consists of implementing C++ classes to authenticate the system and compare the performance with that of implemented C code. The next phase deals with single-layer neuron being planned to implement using a standard doubly linked-list and work on completing the predictive texting. The analysis of the performance and complexity (time & space) is an integrated work of this module. The efficient RAM memory management and observations needs to be inferred as a part of the completion of the project.

***Keywords:*** Embedded C++, Artificial Intelligence, microcontroller, ARM, OOPs.

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