## Rational for the Research

Searching is one of the most commonly performed task in software development. Developers spend around 16% of total software development time for searching sample code or reusable component [17]. Usually, sample codes are searched to gain insight about an API. On the other hand, reusable components are searched to utilize these components that have already been developed. For both purposes, it is required to provide relevant results as much as possible by the existing code search engines. However, due to not considering feature wise similarity among code fragments, traditional code search engines fails to retrieve more code fragments that are relevant. As a result, developers are deprived of getting more code snippets which may be more relevant to them. For not getting relevant sample codes or reusable components, developers have to put extra time and effort to understand the usage of an API or to develop a component from scratch. This induces additional time and cost in software development.

In order to speed up software development and reduce cost, existing search engines should satisfy developers’ needs by providing more relevant code fragments. However, the recall of current code search engines decreases for not retrieving more feature wise similar codes. So, to improve the recall of these code search engines, our proposed technique checks feature wise similarity among code fragments and selects proper terms to represent similar code snippets. Thus, more relevant code snippets will be retrieved against a query and developers will get more codes to understand an API or reuse existing software components. This will assist in reducing time and effort in software development.