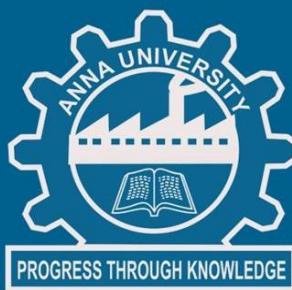


PhishTor: Phishing Website Detection (Chrome Extension)



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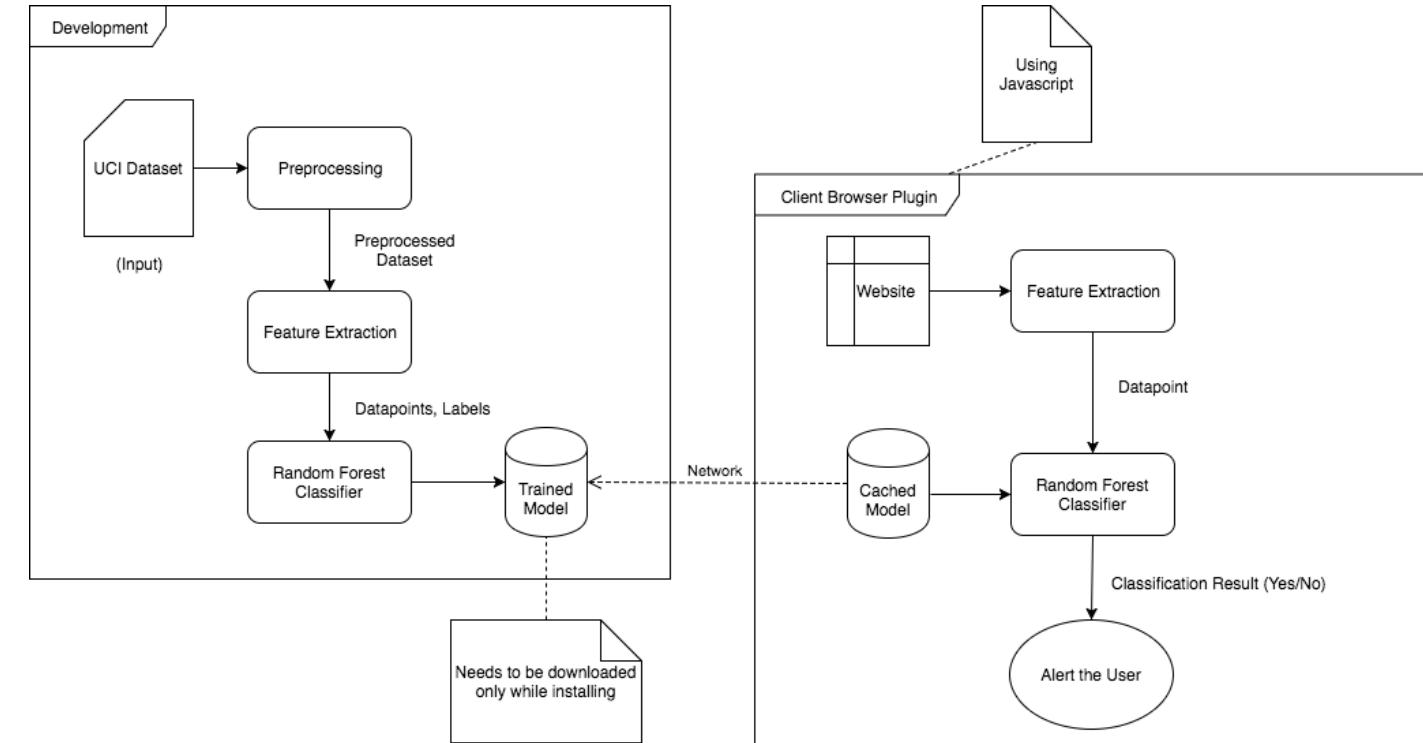
Abstract

A phishing detection plugin for chrome browser that can detect and warn the user about phishing web sites in real-time using random forest classifier. One common approach is to make the classification in a server and then let the plugin to request the server for result. Unlike the old approach, this project aims to run the classification in the browser itself and thus achieving better privacy. The random forest classifier needs to be trained on the phishing websites dataset using python scikit-learn and then the learned model parameters need to be exported into a portable format for using in javascript.

Objectives

1. To implement phishing detection techniques in chrome browser extension.
2. Better privacy: User browsing pattern should not be leaked. The user's browsing history never leaves the browser.
3. Network independent: The detection should not be affected by network latency.
4. Rapid detection with less computing power.

System Architecture



Result Analysis

Calculated live from testing data

Precision:

0.8217636022514071

Recall:

0.9631665750412315

F1 score:

0.8868640850417616

Conclusion

Cutting down the model features for privacy and rapid detection reduced the accuracy.

But at the same time, the system has become more usable as it is network independent and lightweight.

Major References

A. Subasi, E. Molah, F. Almkallawi, and T. J. Chaudhery, "Intelli- gent phishing website detection using random forest classifier," 2017 International Conference on Electrical and Computing Technologies and Applications (ICECTA), Nov. 2017.