

# Design of Anti-Phishing Chrome Browser Extension

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## Objective

Detection of Phishing URLs using Machine Learning Techniques and Implementing Chrome Extension.

## Design approach/Methods

**Feature Extraction Phase:** This module takes a URL dataset with target value as input and outputs a dataset with extracted features.

**Random Forest Training Phase:** This module takes the dataset with extracted features as input and is trained on Random Forest Classifier.

**Chrome Extension Phase:** This module includes JavaScript file along with APIs developed by chrome which fetches the URL from the address bar, performs feature extraction and sends the feature extraction vector to the PHP file. After receiving the feature extraction vector, the PHP file inputs to the python file consisting of ML classifier which is already exported in a pickle format. After predicting, the output is forwarded to the chrome extension.

## Result

Random Forest with PSO achieved accuracy 97.01%



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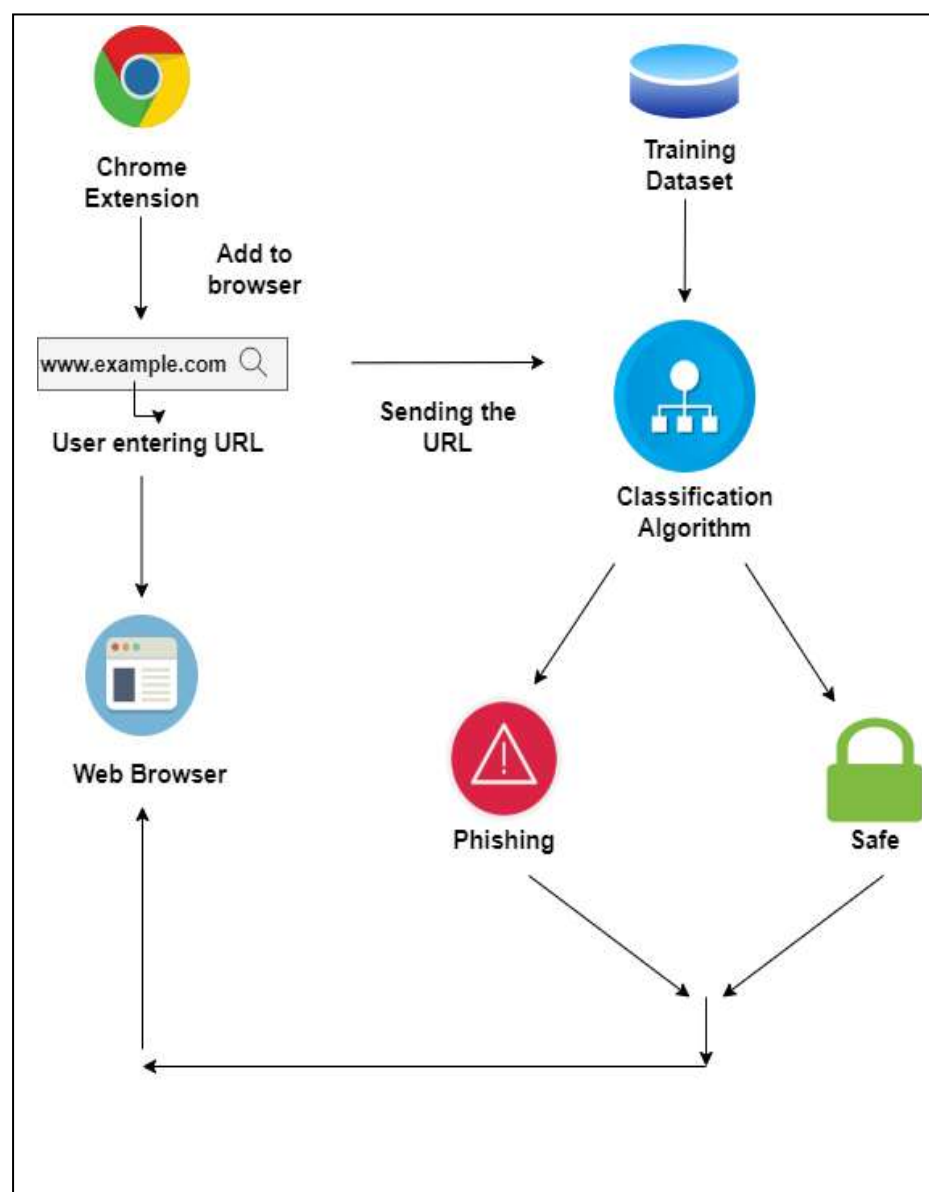
## References

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## System Architecture



## Conclusion and Future Work

- Developed Intelligent Phishing website detection system which warns the users before their credentials getting misused.
- Currently the classifier is trained on 26 features which can be increased further.
- The chrome extension can be enhanced to cache the results of frequently visited sites there by reducing the computation time.
- Threads can be implemented for feature extraction to execute the features parallel which may result in significant reduction in time