PHISHING SITE URL PREDICTION

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Introduction

- Phishing is a type of social engineering attack often used to steal user data, including login credentials and credit card numbers.
- It occurs when an attacker, masquerading as a trusted entity, dupes a victim into opening an email, instant message, or text message.
- This presentation discusses our work on developing a predictive model on Phishing sites.

Dataset Description

- Features such as URL: The website under consideration,Category:The label indicating whether the URL is categorized as good or bad are included.
- The dataset comprises 500,000 entries.

Model Selection

- We experimented with machine learning models, including both Logistic Regression and Multinomial Naive Bayes.
- Both models showed promising performance in terms of accuracy.
- We choose Logistic Regression because we considered additional factors such as interpretability,probabilistic predictions and computational efficiency.

Evaluation Metrics

- We used various evaluation metrics to assess model performance:
  - Accuracy, Precision, Recall, F1 Score
  - Confusion Matrix
- These metrics helped us understand the strengths and weaknesses of each model.

Results

- Our results indicate that both Logistic Regression and Multinomial Naive Bayes perform well in predicting phishing site urls.
- Logistic Regression offers better interpretability and computational efficiency.
- Multinomal Navie Bayes provides a lower risk of overfitting and robutness to Irrelevant Features.

Conclusion

- Phishing site URL prediction is vital for Email filtering and Spam Detection.
- Machine learning models, particularly Logistic Regression and Multinomial Naive Bayes, offer effective tools for warning users about malicious websites.
- Our findings contribute to the development of accurate and interpretable models for Phishing site URL prediction.