

## Email Phishing Detection Using Natural Language Processing and Convolutional Neural Network

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**Abstract :** Phishing is one of the oldest and best known scams on the Internet. It can be defined as any type of telecommunications fraud that uses social engineering tricks to obtain confidential data from its victims. It's a cybercrime aimed at stealing your sensitive information. Phishing is generally done via private email, so scammers impersonate large companies or other trusted entities to encourage victims to voluntarily provide information such as login credentials or, worse yet, credit card numbers. The COVID-19 theme is used by cybercriminals in multiple malicious campaigns like phishing. In this environment, messaging filtering solutions have become essential to protect devices that will now be used outside of the secure perimeter. Despite constantly updating methods to avoid these cyberattacks, the end result is currently insufficient. Many researchers are looking for optimal solutions to filter phishing emails, but we still need good results. In this work, we concentrated on solving the problem of detecting phishing emails using the different steps of NLP preprocessing, and we proposed and trained a model using one-dimensional CNN. Our study results show that our model obtained an accuracy of 99.99%, which demonstrates how well our model is working.

**Keywords :** phishing, e-mail, NLP preprocessing, CNN, e-mail filtering

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