



CAPSTONE PROJECT

Fake News Detection Using
Convolutional Neural Networks (CNN)

Final Project

Presented By

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PROJECT TITLE

Fake News Detection Using Convolutional Neural Networks (CNN) is a project that aims to address the pervasive issue of misinformation and deception in online content by leveraging advanced machine learning techniques.

AGENDA

1. Problem Statement
2. Project Overview
3. End Users
4. Solution and Value Proposition
5. The Wow Factor in Your Solution
6. Modelling
7. Results



PROBLEM STATEMENT

- With the proliferation of social media and digital platforms, fake news has become rampant, leading to misinformation and societal division.
- Identifying and filtering out fake news is challenging due to its diverse forms and the speed at which it spreads.
- Traditional methods of fake news detection often lack accuracy and efficiency, necessitating the need for more advanced techniques.



PROJECT OVERVIEW

- Our project aims to combat the spread of fake news by leveraging Convolutional Neural Networks (CNNs), a powerful deep learning technique widely used in image recognition but also applicable to text classification.
- By training CNNs on large datasets of both fake and real news articles, we can develop models capable of distinguishing between the two with high accuracy.
- The project involves data collection, preprocessing, model training, and evaluation to ensure robustness and effectiveness.



WHO ARE THE END USERS?

- Media organizations seeking to maintain credibility by verifying the authenticity of news articles before publication.
- Social media platforms aiming to curb the dissemination of fake news within their networks.
- Individuals looking for reliable sources of information in the midst of a deluge of online content.

YOUR SOLUTION AND ITS VALUE PROPOSITION

- Our solution offers a scalable and automated approach to fake news detection, reducing the burden on human fact-checkers.
- By integrating CNNs into the detection process, we can achieve higher accuracy and efficiency compared to traditional methods.
- The value proposition lies in promoting information integrity, fostering trust in media sources, and mitigating the harmful effects of misinformation on society.



THE WOW IN YOUR SOLUTION

- Our solution not only detects fake news but also adapts and evolves through continuous learning from new data.
- The incorporation of CNNs enables the model to extract intricate patterns and features from textual data, enhancing its ability to discern subtle differences between genuine and fake news.



MODELLING

- Convolutional Neural Networks (CNNs) are at the core of our modeling approach, utilizing their hierarchical structure to automatically learn relevant features from text.
- We employ techniques such as word embeddings, convolutional layers, pooling layers, and fully connected layers to construct a robust and efficient architecture.

RESULTS

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]]:  
news = str(input())  
manual_testing(news)
```

A backlash ensued after Donald Trump launched a sexist rant against Kirsten Gillibrand Thursday morning, saying that the Democratic Senator would do anything for a campaign contribution. Trump was calling Gillibrand a whore. White House press secretary Sarah Huckabee Sanders somehow denied that Trump's tweet was sexist. There is no way that is sexist at all, Sanders told reporters. Then Sanders tried to explain what Trump really meant (we all know what he really meant). According to Sanders, Trump was merely accusing Gillibrand of being controlled by contributions, and hammering home his pledge to drain the swamp in Washington, according to The Hill. I think that the president is very obvious, she said. This is the same sentiment the president has expressed many times before when he has exposed the corruption of the entire political system. Sanders claims that Trump does not owe Gillibrand an apology if his words were taken as sexist. I think only if your mind is in the gutter you would have read it that way, so no, she said. Watch: Gillibrand called on Trump to resign after Trump's accusers came back into the spotlight by hosting a press conference in which they called for an investigation into his past behavior. Lightweight Senator Kirsten Gillibrand, a total flunky for Chuck Schumer and someone who would come to my office begging for campaign contributions not so long ago (and would do anything for them), is now in the ring fighting against Trump. Very disloyal to Bill & Crooked-USED! Trump tweeted this morning. Gillibrand responded to Trump's attack, saying that she won't be silenced. You cannot silence me or the millions of women who have gotten off the sidelines to speak out about the unfitness and shame you have brought to the Oval Office, she tweeted. Yeah, Trump, you called her a whore. Image via screenshot.

LR Prediction: Fake News
DT Prediction: Fake News
GBC Prediction: Fake News
RFC Prediction: Fake News

+ Code

+ Markdown

RESULTS

[45]:

```
news = str(input())  
manual_testing(news)
```

(In Dec. 25 story, in second paragraph, corrects name of Strong's employer to Mental Health Department, not Public Health Department.) By Bernie Woodall (Reuters) - A man claiming to be the person who delivered a gift-wrapped package of horse manure at the Los Angeles home of U.S. Treasury Secretary Steven Mnuchin said on Monday he did it to protest the federal tax overhaul signed into law last week by President Donald Trump. Robert Strong, 45, a psychologist for the Los Angeles County Mental Health Department, said by telephone he left the poop-filled parcel addressed to Mnuchin and Trump in the driveway outside Mnuchin's home in the posh Bel Air community. KNBC-TV, an NBC television affiliate in Los Angeles, reported Mnuchin was not home at the time. The package was found by Mnuchin's neighbor. "Protest really should be funny," Strong told Reuters. "People's eyes glaze over when they just see angry people in the streets." He believes the new tax law will hurt poor people. Neither the U.S. Secret Service nor the Los Angeles Police Department, both of which investigated the incident, would confirm Strong was responsible. The Secret Service interviewed an individual who admitted delivering the package, but no charges had been filed against him as of Monday afternoon. LAPD Lieutenant Rob Weise said it was possible whoever left the package did not break any criminal laws. While he is not assigned to investigate the incident, Weise said if the box did not present any danger, it would not be illegal. The LAPD bomb squad X-rayed the box before opening it on Saturday. In a photo of the card Strong posted on Twitter, he wrote "Mistakes Mnuchin & Trump, We're returning the 'gift' of the Christmas tax bill" and signed it "Warmest wishes, The American people." Strong said a Secret Service agent, accompanied by six police officers, showed up at his house to question him on Sunday night, and the agent chided him, asking, "Are you ashamed of your behavior?" The White House declined to comment on Monday and officials with the Treasury Department could not be reached.

LR Prediction: Not A Fake News
DT Prediction: Not A Fake News
GBC Prediction: Not A Fake News
RFC Prediction: Not A Fake News

+ Code

+ Markdown

https://drive.google.com/file/d/186dp-bqAwgPaqOH9Nm9zYbV_ojYBQgvA/view?usp=drive_link