# the New York Time

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# P WINS IN LANE

EDIATE ACTION ON EXECUT.

#### E; "EXHAUSTED' Ly, says bill

cordained it was likened to a ston, the nation's would-be first terday with donors and party ay's crushing defeat, unable to

function and ethical lapses dog r most recent campaign was no nowed donations cratering. Vice luma Abedin left the campaign nusband and chronic dick-sellie slurred speech during an April bie Wasserman Schultz, DNC future DNC events in favor of Ms Clinton in a kiddie pool ddlers. Even then controversy l. Ms Clinton "Is America a t pee on my leg?"

at a Saudi benefit luncheon at resident-elect Trump's historic just not the votes. Sure, it's is she'd win every time. I mean, e emails and the Benghazi crap, saying she's always hollering, that only happened one time, aign she ran — the old badger

ssed the baton to unremarkable hadow in Vera Wang couture, for the long-grain, Himalayanof your minds?!," said the , I said. No say blanco. No say se fucking organic rice before I family murdered."

legacy. "This woman is like a



President-elect Donald J. Trump joined supporters at a rally in Washington Sc

#### **SCAVINO EMERGES AS POLITICAL POWER**

By KATHY BANSHEE (AP)

A relative unknown in Washington political circles prior to his appointment as senior advi Trump, Daniel Scavino, Ir, has skyrocketed to fame in recent weeks, earning praise as a b

# Data Wrangling Techniques for Fake News Detection

With the rise of fake news, detecting and combating misinformation is more important than ever. In this presentation, we will explore the data wrangling techniques used to detect fake news.



### What is Fake News?

#### Definition

Fake news is false or misleading information presented as news. It can be spread through various mediums, including social media.

#### **Impact**

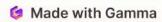
Fake news can have serious consequences, from influencing public opinion to affecting election outcomes.

#### Origins

Fake news can be deliberately created for propaganda purposes or accidentally spread through inaccurate reporting.

# The Importance of Detecting Fake News





# Data Collection and Scraping





We can collect data from websites using web scraping tools like Beautiful Soup or Scrapy.



#### Social Media

We can also collect data from social media platforms like Twitter and Facebook.



#### News Websites

News website APIs can provide structured data for analysis.

# Cleaning and Preprocessing Data

1 Text Cleaning

We can remove stop words, non-alphabetic characters, and correct spelling errors. 2 Tokenization

We can separate text into individual words or phrases for analysis.

3 Normalization

We can convert text to lowercase and/or stem words to reduce variation.



# Feature Engineering

#### Content-based Features

- TF-IDF
- Word Embeddings
- Topic Modelling

#### Contextual Features

- Source Credibility
- Geolocation
- Social Network Analysis

## Data Integration and Fusion

#### Data Aggregation

We can combine data from multiple sources to improve accuracy.

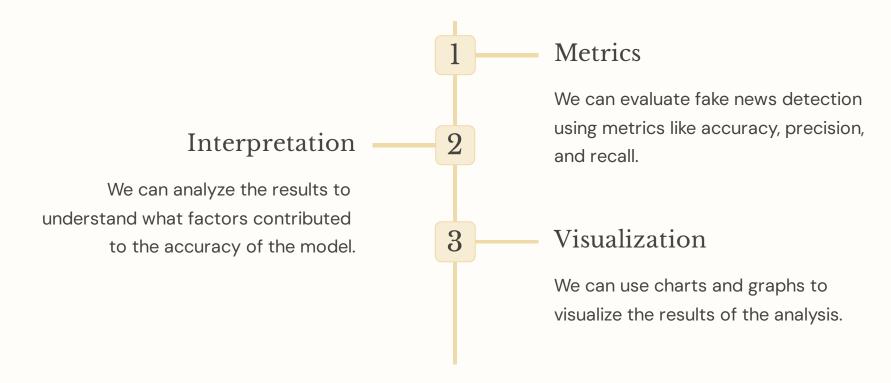
#### Data Fusion

We can merge data with different formats or representations into a single coherent data set.

#### Ensemble Methods

We can use multiple models or algorithms to make a prediction.

# Evaluation and Analysis



## Challenges and Limitations



#### **Ethical Concerns**

We must consider ethical concerns when detecting fake news, such as privacy violations and censorship risks.



#### Data Wrangling

Data wrangling can be timeconsuming and requires domain knowledge to be effective.



#### Limitations

Data wrangling techniques are not foolproof, and some fake news may still go undetected.

## Conclusion

#### Recap

We explored data wrangling techniques for fake news detection, including data collection, text cleaning, feature engineering, and data integration.

#### Continuous Improvement

As fake news evolves, we must continue to improve our techniques and cooperate across disciplines to combat its spread.

#### Call to Action

Join us in the effort to fight fake news and promote a more informed and responsible society.