CSCI 215
Social and Ethical Issues in Computer Science

Fake News and Deep Fakes

History of Fake News

- Propaganda
  - Nazi's and anti-semitism
  - Catholic church and the Lisbon earthquake
- Yellow journalism
  - Pulitzer vs Hearst
  - Sensationalism to sell more papers
  - Creation of the New York Times

Fake News

- Two manipulated aspects
  - News source
  - Content
- Spread because of
  - Ideological incentive
  - Monetary incentive
- Satire
  - Can lead to fake news
  - The Onion

Sarah Palin Calls To Boycott Mall Of America Because "Santa Was Always White In The Bible"

Written by Lea Vat Kens *December 3rd 2016*

f | SHARE THIS ON FACEBOOK

India Fake Kidnapping

Fake News and Social Media

- "Source-agnostic"
  - A wide variety of outlets,
  - Regardless of the quality, reliability, or political leanings
- Friends or people they follow share stories
- Automatically tag articles with indications of their popularity
  - The number of views or likes they've gotten
  - Can be inflated by robots and fake accounts
  - People are more likely to tune in to a well liked story
- 62% of Americans get news from Social Media

The Twitter Problem

- 2018 MIT study
    - 126,000 stories
    - 3 million users
    - 10 years
- Fake news reaches more people, penetrates deeper into the social network, and spreads much faster
- Twitter bots amplified true stories as much as they amplified false ones
- Humans are the cause of spreading fake news

https://www.theatlantic.com/technology/archive/2018/03/largest-study-ever-fake-news-mit-twitter/555104/

Fake News and Covid-19

- Misinformation is running rampant
  - Covid-19 existed for a long time
  - It's the same as the animal version
  - Shouldn't eat certain meats
  - Just a regular flu
  - Face masks don't work
  - Miraculous cures
- Only listen to experts!

https://www.boehringer-ingelheim.com/covid-19/protecting-humans-and-animals/science-against-covid-19-fake-news

Social Conflicts

- Pizzagate
  - Supposed hidden pedophilia trafficking ring led by Hillary Clinton
  - Story got spread by bots and alt-right movement
  - Man shot up pizzeria in D.C.
- Russia's Internet Research Agency
  - Paid Facebook for advertisements
  - Discrediting Hillary Clinton and supporting Donald Trump
  - Instigate protests and counter protests

Ethical Ramification

- Politics
  - Fake News stories influenced voters
  - Ohio State University study on voting in 2016 elections
  - Clickbait and advertisement cost
- Normalizes other sensationalist outlets
- People lose critical thinking abilities

https://www.cits.ucsb.edu/fake-news/danger-election

M. Dentith, 2017, *The Problem of Fake News*, Public Reason 8 (1-2): 65-79

Recognizing Fake News

- Fact-check and criticize
- Ask these three questions
    - Who is the creator?
    - What is the message?
    - Why was this created?
- Wipe your cookies

https://www.prattlibrary.org/research/tools/index.aspx?cat=90&id=4735

Deep Fake Videos

- Deep learning techniques
  - Convolutional neural networks
  - **Generative adversarial networks**
- Two types of deep fake videos
  - Superimposing someone's face onto a body so it looks like they did something they never did
  - Taking a speech and manipulating it onto an unsuspecting person's face so it looks like they said it
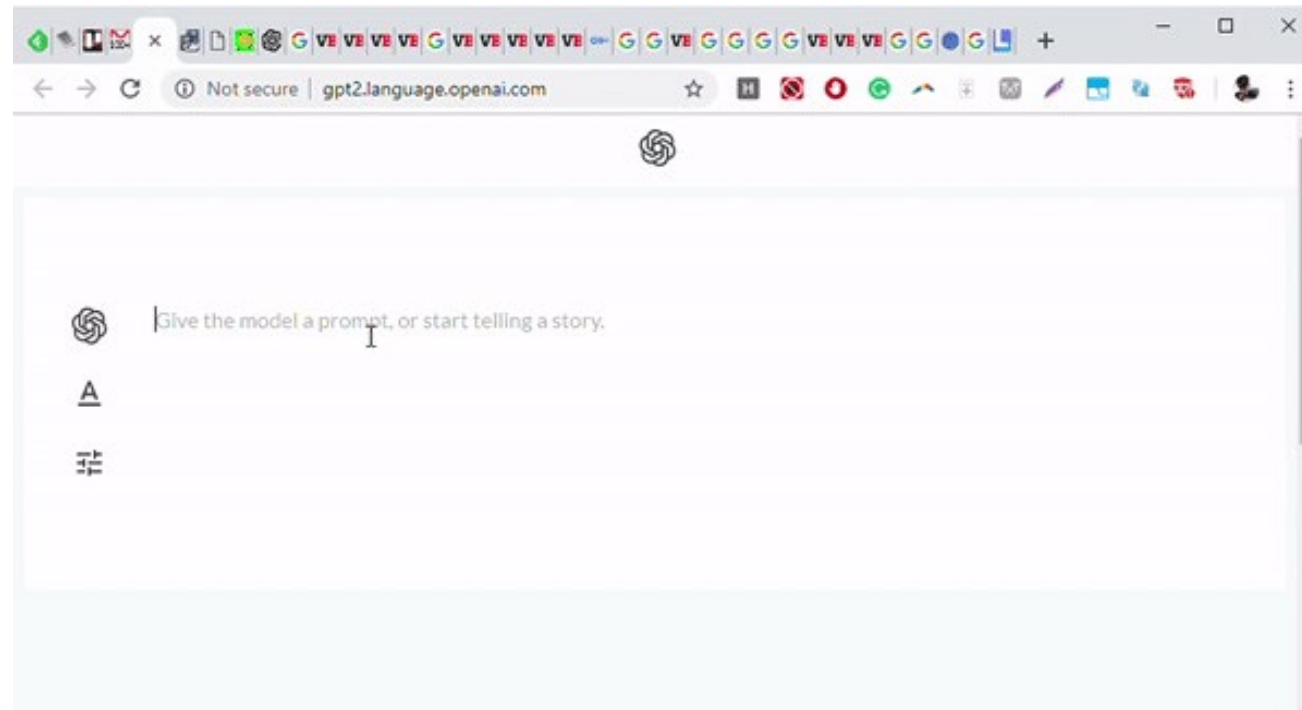
Forrest Gump

Deep Fake Video Example

Deep Fake Audio

Being a robot has it's benefits,

Deep Fake Text

Deep Fake in Social Media

- Snapchat & TikTok
  - Face filters
  - Face swapping
  - Cameos
- Freedom of speech
  - 'Misinformation'
  - Should deep fake content be blocked?
  - Facebook removes things that are not easily identifiable as fake

Deep Fake Pornography

- Extremely common
- Enables bullying and harassment
- Targets
  - Revenge porn
  - Celebrity porn

Recognizing Deep Fakes

- Still glitchy
- Authorship is almost impossible to recognize
  - No punishment for creating videos
  - People will keep doing it
- Deep fake detection technology

https://venturebeat.com/2020/02/11/deepfake-media-and-detection-methods/