
Munmun De Choudhury
munmund@gatech.edu
Week 14 | April 13, 2022
Final Presentations of Term Projects

- Scheduled for Apr 20 and Apr 25
  - Signup document available on course website
- Each team gets 10 minutes in all
  - 7-8 minutes of presentation
  - 2-3 minutes of Q&A
- Each team member needs to be present
- Structure:
  - Introduction (main idea)
  - Background/Motivation/Significance
  - Related Work
  - Research questions/Goals/Objectives
  - Data/Social media platform
  - Approach/Method
  - Results
  - Implications/What you have learned/Conclusion
Facebook 'likes' predict personality

Sexuality, political leanings and even intelligence can be gleaned from the things you choose to "like" on Facebook, a study suggests.

Researchers at Cambridge University used algorithms to predict religion, politics, race and sexual orientation.

The research, published in the journal *PNAS*, forms surprisingly accurate personal portraits, researchers said.

The findings should "ring alarm bells" for users, privacy campaigners said.

The study used 58,000 volunteers who alongside their Facebook "likes" and demographic information also provided psychometric testing results - designed to highlight personality traits.

The Facebook likes were fed into algorithms and matched with the
"This research should ring alarm bells for anyone who thinks that privacy settings are the solution to protecting information online. We need to fundamentally re-think how much data we are voluntarily sharing," said Nick Pickles, director of privacy campaign group Big Brother Watch.

"Yet again, it is clear the lack of transparency about how users' data is being used will lead to entirely justified fears about our data being exploited for commercial gain."
Deep neural networks are more accurate than humans at detecting sexual orientation from facial images.

Yilun Wang, Michal Kosinski
Created on: September 07, 2017 | Last edited: October 16, 2017

DEEP NEURAL NETWORKS CAN DETECT SEXUAL ORIENTATION FROM FACES

1 THIS IS A PREPRINT OF THE PEER REVIEWED ARTICLE TO APPEAR IN JOURNAL OF
2 PERSONALITY AND SOCIAL PSYCHOLOGY.
3
4 THE MOST RECENT VERSION IS AVAILABLE AT https://osf.io/zn79k/
5 AUTHOR NOTES ARE AVAILABLE AT: https://goo.gl/9b2aR2
6
7 Deep neural networks are more accurate than humans at detecting sexual orientation from facial
8 images
9
10 Yilun Wang, Michal Kosinski
11 Graduate School of Business, Stanford University, Stanford, CA94305, USA
12 michalk@stanford.edu
13
14 The study has been approved by the IRB at Stanford University
15
16 Citation: Wang, Y., & Kosinski, M. (in press). Deep neural networks are more accurate than
17 humans at detecting sexual orientation from facial images. Journal of Personality and
18

weng_kosinski.pdf

Download preprint

Abstract

We show that faces contain much more information about sexual orientation than can be perceived and interpreted by the human brain. We used deep neural networks to extract features from 35,326 facial images. These features were entered into a logistic regression aimed at classifying sexual orientation. Given a single facial image, a classifier ...

Preprint DOI

10.17605/OSF.IO/HV28A

License

No license

Disciplines

Social and Behavioral Sciences  Psychology

Tags

Artificial Intelligence  Big Data  Computational Social Science  Computer Vision
Facial recognition  Prenatal Hormone Theory  Privacy  Sexual orientation

Citations

APA
Automatic Crime Prediction using Events Extracted from Twitter Posts

Xiaofeng Wang, Matthew S. Gerber, and Donald E. Brown

Department of Systems and Information Engineering, University of Virginia
{xw4u,msg8u,brown}@virginia.edu

Abstract. Prior work on criminal incident prediction has relied primarily on the historical crime record and various geospatial and demographic information sources. Although promising, these models do not take into account the rich and rapidly expanding social media context that surrounds incidents of interest. This paper presents a preliminary investigation of Twitter-based criminal incident prediction. Our approach is based on the automatic semantic analysis and understanding of natural language Twitter posts, combined with dimensionality reduction via latent Dirichlet allocation and prediction via linear modeling. We tested our model on the task of predicting future hit-and-run crimes. Evaluation results indicate that the model comfortably outperforms a baseline model that predicts hit-and-run incidents uniformly across all days.

1 Introduction

Traditional crime prediction systems (e.g., the one described by Wang and Brown [14]) make extensive use of historical incident patterns as well as layers of in-
1. What can we do with data generated from social computing systems? What can we study?

2. What should we not do with these data. What study designs are particularly problematic?
Challenges
Experimental evidence of massive-scale emotional contagion through social networks
Summary

- This experiment was widely criticized on ethical grounds regarding informed consent.
The picture can't be displayed.
Highlights of some findings...

• **Living in a lab**
  - *Dear Mr. Zuckerberg, Last I checked, we did not decide to jump in a petri dish to be utilized at your disposal . . . We connect with our loved ones.*

• **Manipulation anxieties**
  - *Don’t be fooled, manipulating a mood is the ability to manipulate a mind. Political outcomes, commerce, and civil unrest are just a short list of things that can be controlled.*

• **Wake up, sheeple**
  - *Anyone who doesn’t realise that anything you put “out there” on Facebook (or any other social media site) is like shouting it through a bullhorn should have their internet competency licence revoked. We can’t blame all stupidity on some or other conspiracy...*

• **No big deal**
  - *A/B testing (i.e. basically what happened here) when software companies change content or algorithms for a subset of users happens *all the time*. It’s standard industry practice.*
A key takeaway – consent is important!
Consent at Scale – why it is hard
The Case of Deleted Tweets/Social media posts
Also what about those who can’t give consent any more? *The case of dead people*

- Today’s view
- Medieval view
- Things are muddled when it comes to dead people’s digital lives – legislation has not kept up with technological change
Digital Wills and Beneficiaries (Forbes)

... still particularly nascent when it comes to data stored by a third-party company
When there is no consent, researchers have poor understanding of what can go wrong, and “participants” or research subjects have limited understanding of risk.
The picture can't be displayed.
The picture can't be displayed.
Amid the ethical controversy surrounding the experiment, Facebook twice attempted to draw attention to the study’s claims about well-being. Lead author Adam Kramer wrote:

*The reason we did this research is because we care about the emotional impact of Facebook and the people that use our product. We felt that it was important to investigate the common worry that seeing friends post positive content leads to people feeling negative or left out. ... And we found the exact opposite to what was then the conventional wisdom: Seeing a certain kind of emotion (positive) encourages it rather than suppresses is [sic].* (2014)

Mike Schroepfer, Facebook’s Chief Technology Officer, later reiterated Kramer’s statement (2014).
Redo the emotion contagion study experimentally or with observational data, but in an ethical manner. What study design will you use?
If true, these findings could substantially alleviate concern that Facebook represents a threat to well-being. But the work also has significant methodological concerns.
The picture can't be displayed.
The picture can't be displayed.
The picture can't be displayed.
The picture can't be displayed.
A Taxonomy of Ethical Tensions in Inferring Mental Health States from Social Media
Overview of Taxonomy

- Participant and research oversight
- Validity, interpretability, and methods
- Stakeholder implications
Possible Ethical Solutions
Class Exercise II

Analyze the challenges in the recently released suicide prevention AI tool of Facebook. Analyze from the perspective of 1) informed consent; 2) methodology/algorithm; and 3) transparency.