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# Predicting Consent:

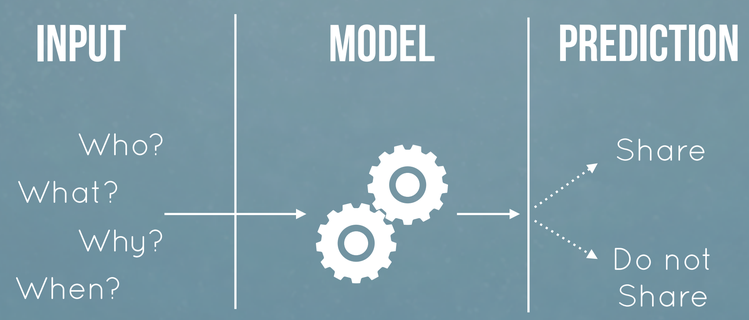
## Investigating Ethical Methods for Mining Social Media Data in Health Research

wellcome

## PROBLEM

The large number of people using online social networks has made such services an attractive source of data for researchers. In particular, social media data have enabled health research into areas such as depression and mental health. But this research is often without the knowledge or consent of those being studied, raising several ethical concerns.

We are exploring ways to enable ethical health social media research. We aim to give more control to the user, with regard to what social data should be accessible and to whom, by modelling the appropriate flows of data in a healthcare context using machine learning.




## USER STUDY

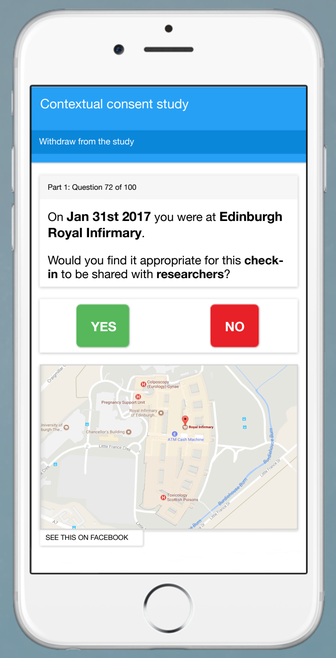
We are conducting a user study to investigate the question: Can contextual factors be used to predict when a person would likely consent to their social data being used in health research?

64 participants

- ☑ UK based, age 18+
- ☑ Use social media for health purposes

Participants sign into a Facebook application, are shown posts from their profile, and are asked if they would share that post with a theoretical medical stakeholder.

This is repeated up to 100 times for each participant, resulting in a large dataset of consent decisions with contextual attributes.



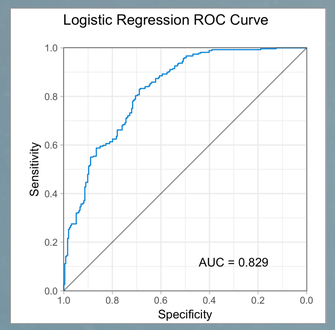

We Collect:

- Demographic data
- Post meta-data
- The audience
- Sharing decision

## PRELIMINARY RESULTS

Preliminary results suggest that our model:

- Can predict consent decisions with an overall accuracy of around 75.9%.
- Correctly withholds data that should not be shared 82.9% of the time.
- Correctly shares data that should be shared 68.5% of the time.




| n = 523 | | Predicted: Share | Predicted: Do Not Share |
|---|---|---|---|
| Actual: | Share | 174 | 80 |
| | Do Not Share | 46 | 223 |

These findings could play a significant role in accurately predicting the appropriate flow of participant data within research databanks.

We are currently recruiting more participants. If you know groups or individuals who might be interested in participating, please take a flyer and share it with them.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For further information, visit:
www.cnorval.com/consent


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