Homework 2

Using the techniques we have discussed in class, read Alan Mislove's paper:

> [PET19] Giridhari Venkatadri, Elena Lucherini, Piotr Sapiezynski, Alan Mislove: Investigating sources of PII used in Facebook's targeted advertising. PoPETs 2019(1): 227-244 (2019)

In this assignment, you'll write a review of this paper (referred to below as [PET19]) and answer a few specific questions about the paper. Please follow the template below, typing a few sentences for each section. Your submission must be typed and in a machine-readable PDF (no scans) and no longer than 2 pages. Use your own words, do not copy sentences or phrases from the text.

1. Summarize the paper's contributions (in a few sentences and your own words).

2. List 3 or more strong points, labeled S1, S2, S3, etc. A strong point could be a novel insight, a positive comment on the clarity or depth of the methodology, a comment on the impact of the work, or any scientific contribution you found noteworthy and interesting.

3. List 1 or more weak points, labeled W1, W2, W3, etc. A weak point could be an assumption you do not feel is valid, an experiment that you feel should have been done but wasn't (state why you felt it was needed), a specific point in the paper that you felt was unclear, or any weakness you found in the scientific development.

4. Explain what *de minimis* harm this research could have caused Facebook. Why do you think the authors felt it necessary to justify that any harm was *de minimis* (minimal)?

5. The authors refer to their prior work in reference [40] several times. State two distinct contributions of [40]. You do not have to read [40], just state in your own words two contributions of [40] based on your understanding from reading [PET19].

6. The experiments use two PII-Lvel privacy controls – 1) least restrictive and 2) most restrictive. Which PII-level privacy controls (least or most restrictive) were used in each of the four experiments on the sources of PII used in advertising (the four sources being: 1) provided as profile data: 2) provided for security; 3) provided to other Facebook services; and 4) obtained without user's knowledge)? Is the privacy control used as a independent variable? Why or why not? Critique or comment on the decision.