

# ***Mapping the Cyberstalking Landscape: An Empirical Analysis of Federal U.S. Crimes***

DECISION: accept

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## Summary of Reviews

- Review 1: 2 (3)
- Review 2: 1 (4)
- Review 3: 2 (3)

## Reviews

### ***Review 1***

**TOTAL SCORE:** 2 (accept)

**Overall evaluation:** 2 (accept)

**Reviewer's confidence:** 3 (medium)

The authors set the scene around cyberstalking in the U.S. A good introduction and literature review is presented with references to US criminal code. The main research questions of this study are: How many federal cyberstalking cases are there? What kinds of stalking behavior are being committed? And what characteristics of these cases are correlated with conviction and severity of punishment?

The method followed is well described. The authors used data from the Federal Judicial Center to identify the universe of all possible cases and custom software tools to collect court records from PACER and Court Listener along with manual and natural language processing techniques, network analysis, and regression analysis methods.

The findings reveal interesting information on cyberstalking cases in the US, the relationships between victims and offenders, related crimes involved in cyberstalking, cyberstalking offender punishment, and technologies used to commit cyberstalking.

The contribution of this research is both methodological and domain-specific. As the author/s mention the findings are novel and important because, they have been able to determine the total number of federal cyberstalking cases, which previous research has not managed to do. In addition, the information provided sheds light to cyberstalking related practices. The authors suggest a model in relation to correlations of their findings, linking these back to their hypothesis.

Overall, a well written paper and an impressive study showcasing how the methodological approach and tools used can help us explore areas difficult to study in traditional ways.

### ***Review 2***

**TOTAL SCORE:** 1 (weak accept)

**Overall evaluation:** 1 (weak accept)

**Reviewer's confidence:** 4 (high)

The submission presents a study of prosecuted cyberstalking federal cases in the US to shed light on the size of the problem, the type of cyberstalking behavior and the analysis of variables that might affect the punishment of the crime. To achieve this goal, authors use a mix of social science techniques involving manual work and automatic processing of data using NLP and others. The conclusions are relevant and novel, significantly impacting the area of study.

Comments:

- The research presented is relevant and novel, with a clear impact on the study of cyberstalking. The methodology presented is sound.
- The submission should undergo major revision to present the research more clearly and better structured. This could be a 10 pages paper, which would improve the readability and clarity of the ideas presented. It would help if the submission follows the structure of the research questions so it's easier to validate if the questions have been answered.
- There should be a clear section where the dataset is described, and all information about it is on one place.
- The submission is plagued by examples of cases that are not clear to the reader what the added value of the examples is. Only one or two examples were valuable (E.g.: Case 441).
- Authors introduce two gender statements that are not followed up or sustained across the text. First, "these crimes are (often) committed by men...". Second, "cyberstalking affects women significantly more than men". By making these statements without a follow-up in the text, the authors are just introducing unnecessary bias to the reader. Summarizing as "intimate partner" should suffice and would be a better fit for the findings shown later.
- Other biases are introduced in phrases like, "Very rarely are these crimes committed randomly by people who have never since met,". This is not sustained, as 23% of the cases were committed by strangers, which is not "very rarely".
- In section or subsection (?) "What are the relationships between victims and offenders?", authors should clarify when they present the percentages, that the values for the subcategories are of the total of the main category. E.g.: "41% involved stalking or harassing an intimate partner", this is a 41% of the 57% of Known offenders.
- Authors should refrain of introducing quotes unless is deemed utterly necessary.

**Review 3**

**TOTAL SCORE:** 2 (accept)

**Overall evaluation:** 2 (accept)

**Reviewer's confidence:** 3 (medium)

The paper presents an interesting contribution shedding light on the factors at play with cyberstalking crime charges in the US. The data collection is credible and the analysis sufficiently reproducible and rigorous to lead to interesting insights worth of discussion at the workshop.

Still the paper has a few shortcomings, mainly methodological, in my view.

- whereas the data collection is credible and the overall labelling and categorization procedure is well thought out, it lacks of rigorousness. I do not believe this is necessarily a threat to the validity of the conclusions of the study, but it does diminish its overall reproducibility. The exact criteria followed to label cases as cyberstalking related or not are not clear. how the labeling procedure developed in practice is also not clear (e.g. how many researchers were involved in the labeling? where cases ordered or randomized? was there a conflict resolution procedure in place?). Similarly the procedure followed for the coding of the different technologies is not clear for the same reasons.
- the NLP approach is essentially keyword matching and an evaluation of its accuracy is not provided over a set of ground truth-labeled paragraphs or documents. I have no reason to believe that the approach is inadequate, but remains overall unclear the extent to which cases were mislabeled by the tooling. False negatives (i.e. cases involving relevant technology but labeled as not) may be a particular concern as these would be excluded from the

analysis procedure. As a single match should be enough to end up under human scrutiny in the adopted methodology, is this unlikely to be an actual threat to validity.

- the regression analysis may involve too many variables for the data points. lack of significance of results may be a byproduct of that, as identified by the authors as well. A simpler regression with fewer variables may lead to additional insights. I do not suggest the current ones be removed though -- just integrated.

I am not clear why "weapons" are listed as relevant technology.

overall I found the paper to be an interesting and sufficiently well-developed contribution for the workshop.