

## Privacy Concerns and Law Enforcement Data Collection to Tackle Domestic and Sexual Violence

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**Abstract :** Domestic and sexual violence provokes, on average in Australia, one female death per week due to intimate violence behaviours. 83% of couples meet online, and intercepting domestic and sexual violence at this level would be beneficial. It has been observed that violent or coercive behaviour has been apparent from initial conversations on dating apps like Tinder. Child pornography, stalking, and coercive control are some criminal offences from dating apps, including women murdered after finding partners through Tinder. Police databases and predictive policing are novel approaches taken to prevent crime before harm is done. This research will investigate how police databases can be used in a privacy-preserving way to characterise users in terms of their potential for violent crime. Using the COPS database of NSW Police, we will explore how the past criminal record can be interpreted to yield a category of potential danger for each dating app user. It is up to the judgement of each subscriber on what degree of the potential danger they are prepared to enter into. Sentiment analysis is an area where research into natural language processing has made great progress over the last decade. This research will investigate how sentiment analysis can be used to interpret interchanges between dating app users to detect manipulative or coercive sentiments. These can be used to alert law enforcement if continued for a defined number of communications. One of the potential problems of this approach is the potential prejudice a categorisation can cause. Another drawback is the possibility of misinterpreting communications and involving law enforcement without reason. The approach will be thoroughly tested with cross-checks by human readers who verify both the level of danger predicted by the interpretation of the criminal record and the sentiment detected from personal messages. Even if only a few violent crimes can be prevented, the approach will have a tangible value for real people.

**Keywords :** sentiment analysis, data mining, predictive policing, virtual manipulation

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