



C25 A Digital Forensics Tool for the Language-Based Analysis of Child Sex Offender Chats

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After attending this presentation, attendees will have a better understanding of the language-based differences of chats between minors and contact-driven vs. fantasy-driven internet offenders. In addition, attendees will learn about a new digital forensic tool being developed for law enforcement that automatically analyzes minor-offender chats extracted from digital devices.

This presentation will impact the forensic science community through a discussion of the language-based differences of chats between minors and different internet sex offenders. In addition, this presentation will discuss a new tool being developed for law enforcement to assist with their investigations involving internet crimes against children.

Internet crimes against children are technology-facilitated crimes committed against minors involving sexual exploitation. In 2016, the Internet Crimes Against Children (ICAC) task force and affiliates conducted more than 61,000 investigations and 77,800 digital forensic examinations resulting in the arrests of more than 9,300 offenders.¹ Not only is law enforcement swamped by the number of cases and sheer volume of data involved, but child sex offenders are not a homogenous group. Some child sex offenders are contact-driven, and their goal is to meet with the minor in the physical world for sex. Others are fantasy-driven and interested in cyber-sex rather than meeting the minor in the physical world.

It is possible to differentiate a contact-driven offender from a fantasy-driven offender based on linguistic differences in their chats with minors. Chiu, Seigfried-Spellar, and Ringenberg collected chat logs between minors and arrested contact-driven vs. fantasy-driven offenders from Ventura County Sheriff's Department.² Based on the preliminary findings, Chiu et al. identified language-based differences in the chats; specifically, contact-driven offenders were more likely to share their negative experiences and emotions with the minor compared to fantasy-driven offenders, which is a self-disclosure grooming tactic.

Based on these results, Seigfried-Spellar, Ringenberg, Chiu, and Rogers proposed a digital forensics tool to assist law enforcement in their ability to triage cases based on the probability of the offender being contact-driven vs. fantasy-driven.³ Ultimately, this digital forensic tool will assist law enforcement in their ability to efficiently and effectively analyze chats between offenders and minors, possibly preventing contact-driven offenses by allocating resources to the more dangerous offenders.

Language-based differences between contact- and fantasy-driven offenders will be discussed, and the prototype of this tool will be presented.

Reference(s):

1. Internet Crimes Against Children Task Force Program (n.d.). *Overview*. Retrieved July 28, 2017 from <https://www.ojjdp.gov/programs/ProgSummary.asp?pi=3>.
2. Chiu, M., Seigfried-Spellar, K.C., & Ringenberg, T.R. (2017). Exploring Detection of Contact vs. Fantasy Online Sexual Offenders in Chats with Minors: Statistical Discourse Analysis of Self-Disclosure and Emotion Words. Under Review.
3. Seigfried-Spellar, K.C., Ringenberg, T.R., Chiu, M.M., Rogers, M.K. (2017, May). Distinguishing Contact Child Sex Offenders vs. Non-Contact Solicitors: Toward a Digital Forensics Tool for Automatic Analysis of their Chats with Minors. Presented at the International Association of Law Enforcement Intelligence Analysts (IALEIA) annual training event. Bloomington, MN. May 1-5, 2017.

Child Sex Offender, Digital Forensics Tool, Linguistics