Analyzing the Social Media Footprint of Street Gangs

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Motivation

- Gangs utilize social media as a way to maintain threatening virtual presences, to communicate about their activities, and to intimidate others.
- Justice Service Agencies use analysis methods that are labor intensive and only lead to basic, qualitative data interpretations.

Platform Requirements

- Monitor negative community effects of gang activities
- Discover opinion leaders who influence the thoughts and actions of other gang members
- Evaluate the sentiment of posts targeting communities, locations, and groups

Architecture

- Data Collection & Filtering
- Data Processing
- Data Access Tools
- Data Analysis & Interpretation

- Entity Identification
- Entity Disambiguation
- Sentiment Extraction
- User Location Estimation
- Social Network Analysis

- Search and browsing
- User Profile Explorer
- Tweet Content Explorer and Search
- User Network Explorer

- Visualization

- Slang Term Dictionary
- Data Store

Analysis

Comparison of terms in user profiles: Gang users Vs Non-gang Users

> Ilemme hear you say Gang X and we finna murder you
> On location name We Drillin Fuck Da Opps
> @user1 @user2 check out this 7414 track, url_to_file
> Rest up load Gotta watch bitch ass niggas #Gang1 #CPDK

Sentiment of gang member tweets
Few interesting tweets from gang members

Key Findings

- Gang members use gang names, fallen gang member names and gang related slang to identify themselves on social media. Such features can be used to identify social media profiles of gang members automatically.
- Gang members tend to have small but well connected social networks. This may suggest that the followers represent very strong offline bonds in real world. Analysis of the follower network identified possible gang members other than the 91 subjects examined in the study.
- Gang members’ Tweets are inherently negative in sentiment. Advanced sentiment analysis conditioned on negativity may be necessary.