

Criminal Network Analysis and Mining (CRIMENET 2014) - Introduction

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Mobile phone networks, social network platforms, social media and over-IP messaging systems represent typical examples of the multitude of communication media broadly adopted in nowadays society. One aspect that has vast societal impact is the abuse of such platforms: the possibility that criminals can exploit these communication channels to organize and coordinate their illicit activities has been proved real. Criminal Networks (CNs) differ from well-studied Social Networks in a number of ways, including their size (usually the number of members is low), the lack of knowledge of their structure and organization (information about members and their relations is incomplete) and the different types of dynamics of interactions (digital communications, economic transactions, face-to-face interactions, etc.). Therefore, in recent years (say, after 9-11-2001) Criminal Network Analysis has grown as an outstanding, almost independent research area. The ability to detect criminal behavior across different interaction media is of paramount importance to avoid abuse and fight crime. For this reason, computational tools and models have been recently proposed to study criminal behavior in online platforms and mobile phone networks.

Scope

An objective of the event is to create a fully interdisciplinary venue, bringing together scientists from disciplines including, among others, physics, sociology, mathematics, computer science, information technologies, policy and law enforcement agencies.

This event is intended to be of particular relevance for some of the conference research topics, namely Social network analysis and mining, Mining social big data, Web mining and its social interpretations, Security, privacy, trust, reputation and incentive issues, Real-time analysis or visualization of social phenomena and social graphs.

Particular attention will be devoted to the following topics:

- CN analysis techniques;
- Community detection in CNs;

- Flow of information in CNs;
- Visualization techniques in CNs;
- Spatio-temporal analysis in CNs;
- Simulations and real-case studies of attacks to CNs;
- Crime on the Web and crimes using the Web.

This is the first edition of the workshop. Our aim is to attract researchers and practitioners, from academia (e.g. computer science, mathematics, sociology) and law enforcement agencies.

Keynote Speaker

Serge Galam CEVIPOF - Centre for Political Research, Paris

Program Committee

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Statistics on Accepted Papers

Submitted: 7

Accepted: 6

Accepted Papers

Fatih Özgül and Zeki Erdem

Understanding Crime Networks: Actors and Links

Donatella Firmani, Giuseppe F. Italiano and Luigi Laura

The (not so) Critical Nodes of Criminal Networks

Jess Espinal-Enrquez, Jesus Mario Siqueiros-Garca, Rodrigo Garca-Herrera and Sergio A Alcal

A Literature-Based Approach to a Narco-Network

Sarah White, Tobin Yehle, Hugo Serrano, Marcos Oliveira and Ronaldo Menezes

The Spatial Structure of Crime in Urban Environments

Marco Alberto Javarone and Serge Galam

Emergence of Extreme Opinions in Social Networks

Gemma Galdon Clavell and Philippe M. Frowd

Using societal impact assessment (SIA) to improve technological development in the field of crime prevention