

## **ABSTRACT**

### **USING TWITTER DATA AS A COMMUNITY POLICING MECHANISM OF CRIMINAL ACTIVITY IN WASHINGTON DC**

Kevin Marc Glodava, M.S.

George Mason University, 2014

Thesis Director: Dr. Arie Croitoru

In recent years social media has emerged as a rich source of information that spans across a wide spectrum of human activities and events. Tapping into this spectrum, law enforcement agencies have recently begun utilizing social media primarily as a communication tool for aiding in criminal investigations as well as a platform for disseminating information and managing public opinion. By leveraging the ability of social media to quickly reach a broad audience, law enforcement agencies can now inform citizens about criminal activities in their area, increase awareness, and promote campaigns. In conjunction with these trends, community policing has gained momentum among the police and community leaders as they search for effective ways to reduce crime and enhance the safety of their communities. In community policing, citizens are not seen only as passive receivers of law enforcement information, but also as active stakeholders in developing solutions to public safety problems and promoting trust in law enforcement agencies. This thesis aims to explore how social media can be used within the community policing paradigm. In particular, we seek to investigate whether geolocated social media feeds can be used to identify and study the impact areas of

specific types of crimes in urban areas, as well as to gauge public awareness to crime. Using the Washington D.C. metropolitan area as a case study, we collected both Twitter data and police records on major crime types in 2013 and 2014. Based on this data, density maps of reported crimes were compared to density maps of geolocated tweets containing crime-related keywords. This comparison revealed a substantial overlap between the hotspots of the two data sources. In addition, we explored the temporal variation of crime activities and related Twitter communication volume. This comparison provided additional information regarding the alignment between crime (and police) and Twitter activity, thus allowing us to gauge public response and awareness to criminal activities. These results support the premise that social media, and in particular Twitter, can be used as a citizen-driven tool for empowering community policing activities, and supporting intelligence-led policing.