Ben Carleton

SD Writing 1

**Overview**

The broad goal of this project is to develop a tool or set of tools that allows law enforcement professionals (in this case, the GW Police Department (GWPD) and its parent, the GW Office of Safety and Security (OSS)) to leverage existing historical data sources to drive a predictive analysis and reporting platform. This toolset would assist the stakeholders in determining optimal resource allocation across three levels of staff: sworn University Police officers, security staff, and Community Service Aides (student staff), and provide reporting that will inform both long-term and immediate financial and operational decision making by OSS’ senior leadership. The data visualization and reporting platform will be developed as a graphical web application, with data analysis batch jobs occurring in the background. Depending on the exact scope and size of the dataset, a variety of machine learning, statistics, and data processing techniques will be employed. Additionally, research into existing products and methods (such as the COMPSTAT system pioneered by the New York City Police Department) will be conducted to determine the types of data employed and results produced.

**Intellectual Merit**

To have a computer program analyze a set of crime-related data and accurately predict where the next crime will occur, in real time, is considered the “holy grail” of law enforcement information systems and as of yet, no (publically-available) system is capable of this. While it is extremely unlikely that this project will achieve that goal, it is hoped that the outcomes of this project will contribute to the law enforcement information analysis field in a meaningful way. This project is unique because, unlike commercial products which target law enforcement agencies that have large staffs responsible for policing areas on the scale of major cities, GWPD’s area of responsibility is only approximately twenty-five square blocks. Through agreements with GWPD and OSS, the project will have access to production data from a variety of sources maintained by the University, including GWPD’s Automated Records Management System instance (ARMS), the system of record for University criminal reports and statistics dating back to 1999. Since the stakeholders’ interests are primarily in long-term planning as opposed to real-time analysis, data from ARMS would be synchronized into the application on a pre-determined interval. Possibilities of integrating with alarm management systems, such as physical access control platforms as well as fire and life safety alerting, have also been discussed as real-time data sources should the stakeholders re-evaluate their priorities in the future. These data sources all contain personally identifiable information, including Clery-act reportable information, HIPPA-protected information, and/or FERPA-protected information, as a result, security will be a paramount concern at all stages of development.

**Broader Merits**

The success of this project will present an immediate material benefit to GWPD’s patrol staff and leadership, as well as the community that the agency serves (i.e., the University’s staff, faculty, and student body). By providing an empirical method of analyzing and reacting to trends in crime on University property, GWPD will be better able to execute its mission of protecting life and property within its area of responsibility. In addition, the development of a toolset targeted towards smaller law enforcement agencies will mean that local police agencies across America, who, like GWPD, are underserved by major players in the market, will finally be able to use these tools to effect optimal resource planning (for physical, logical, and financial assets) to further their own public safety goals and the broader goal of reducing crime in American communities.

**Grade: 94**