

Real Time Threat Estimates for Police-Civilian Interactions

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Introduction

Police-Civilian interactions gone awry dominate the front pages of national newspapers and have become a leading political issue of our time. Significant swaths of the American population have lost confidence in the police, while police feel misunderstood by the American public¹. In the digital age, it is easy to see why. Video of a single abuse of police violence can go viral quite quickly, reinforcing negative impressions many in the society may hold. But officers are also on the other end of the situation, often needing to act defensively due to the high concentration of weapons in police encounters in the US. This leads officers to ‘use their gut’, or more precisely their built-in heuristic for how dangerous an individual in a police interaction is on a case-by-case basis. This project looks to develop a system which can give officers a more precise estimate of the ‘danger’ of a given interaction, thus allowing the officer to handle the situation with greater precision.

Project Description

I propose a sensor suite be installed on officer's person and vehicle which feeds into a central database. A camera suite will be installed in the vehicle to identify the make, model, and license plate number of the car before the police interaction with the civilian. A camera and microphone will be installed on the officers as well. The goal in this project would be to collect data and develop algorithms which would quickly give the officer an estimate of how dangerous the interaction will be.

<https://news.gallup.com/poll/213869/confidence-police-back-historical-average.aspx>

The system will look to accurately populate an appropriate feature vector to classify the interaction as dangerous or not dangerous. It will first look to fill in basic information such as the license plate number, car make/model, and the owners' past history. This should be easily accomplishable given the past work on this². Once the officer is in contact with the individual the system will feed voice recognition techniques to further populate our feature vector with higher level concepts ("fast tone", "overly aggressive", etc). The system will store each interaction and its outcome over time, refining the estimate which will be given to the officers in real time.

Intellectual Merit

This project will test the ability for learning algorithms to interface with humans in some of their most sensitive interactions. This will push the boundary of knowledge as to how accurate an algorithm society will tolerate, what factors are socially acceptable, and whether the technology currently exists to make it feasible.

Broader Impacts

The project will have a large impact on the ability of law enforcement to refine 'their gut feeling' on civilian interactions. Being able to go beyond a 'bad feeling' about a situation, which is subject to the biases and imperfection of human memory and emotion, we give officers a precise estimate based on data. This will allow officers to not only defend themselves more attentively, but also provide space for low danger situations the discretion they deserve.

² <https://medium.freecodecamp.org/remember-that-86-million-license-plate-scanner-i-replicated-heres-what-happened-next-9f3c64e8f22b>