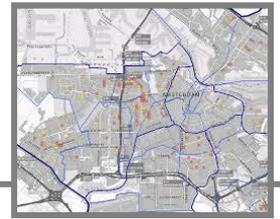


Predictive Policing



Overview

- Description: Predictive Policing (PM) refers to the usage of mathematical, predictive and analytical techniques in law enforcement to identify potential criminal activity. Algorithms are used to forecast where crimes are likely to occur and who might commit them, and make recommendations for allocating police resources^[1]. In principal there are two different types of predictive models, which tie crimes to people or places. First the offender-based model, which creates risk profiles for individuals in the criminal justice system and second the geospatial model, which generates risk profiles for locations.
- State of research: Even though commercial products are available and used (respectively tested) worldwide, the scientific research in this area is still in the state of basic research, open to bias and hard to evaluate.
- Capabilities: The technology is in principal of great interest in social security, as it can be used for the planning of police operations and seems to be useful in preventing crime (e.g. burglary).
- Limits: Civil rights and social-justice groups have great concerns about PM, especially about the offender-based models^[2], as for example about the reinforcement of racial bias based on crime data collected until now. Furthermore, it is not possible to measure their effectiveness at reducing crime and there no agreement as to what predictive systems should accomplish, that means whether they should prevent crime or help to catch criminals.

Further Information

- Key player: Worldwide there are several companies working and selling PM Systems, e.g. PREDPOL (PredPol, USA), Azavea (HunchLab, USA), IBM (e.g. "SPSS Modeler2 or "IBM Cognos", USA), IfmPt (PRECOBS, Germany). In addition there are a variety of tailor made solutions. Research is also ongoing in several Universities, e.g. Santa Clara University (USA); University of California, Los Angeles (USA) or Simon Fraser University (CAN)
- Readiness: The technology is already commercially available and used respectively tested by police departments in several countries.
- Users: Police, Security
- Future outlook and forecast: The main drivers of further developments are from the area of security. Most predictive policing systems are run as third-party services, but that may end. The development of systems, which are more integrated into the general police data management are likely.
- Related Technologies: Predictive modeling combines mathematics and computer science (e.g. Big data, machine-learning, artificial-intelligence algorithms) with fields such as anthropology.
- Links: [1] Shapiro, A; *Reform predictive policing*; Nature; 2017; Vol.541; p.458-460; [doi:10.1038/541458a](https://doi.org/10.1038/541458a);
[2] http://civilrightsdocs.info/pdf/FINAL_JointStatementPredictivePolicing.pdf