

Under the Electronic Eye: a legal evaluation of predictive policing

Time Magazine named predictive policing one of the 50 most important innovations in 2011.¹ The software concept that is designed to give police departments the locations of future crimes before they occur has since spread around the world and is considered one of the most promising technology-led law enforcement tactics to date. Predictive policing uses mathematical algorithms to compile data points from past crimes, lie them out on a map and identify areas of increased likelihood of crime. On a daily basis, it provides police departments with a map on which colored right angles mark areas with a high crime risk as small as 150sqm. Police departments can thereby focus their patrol resources on this area. The algorithm is based on the basic criminological finding that criminals follow habits, and that such habits make their future actions predictable. The (Near-)Repeat Victimization Theory is the core theoretical backbone of all predictive policing algorithms augmented by Routine-Activity, Broken-Windows, and Rational Choice Theory. The main source of input data are crime statistics but various algorithms go further as to include weather data, terrain data such as proximity to public transport and the dates of large-scale public events such football games. Despite the fact that the first predictive policing attempts were made a decade ago, legal scholarship on the issue remains scarce. The topic has been dealt with academically by economists², social scientists³, and computer scientists⁴ but neglected by legal scholars⁵ while hype⁶ and fear⁷ around predictive policing have been growing in the media in the recent years. This is an important moment for a grounded inquiry into predictive policing's socio-legal effects and prospects. Legal scholarship must not allow itself to be overtaken by the rapid technical evolution. My thesis thus attempts a comparative view at predictive policing practices in Germany and the United States.

¹ Grossman, Lev et al., The 50 Best Inventions of 2011, *Time Magazine*, November 28, 2011, Vol. 178 No. 21, URL <http://content.time.com/time/magazine/article/0,9171,2099708-13,00.html>.

² Mastrobuoni, Crime is Terribly Revealing Information Technology, mimeo, 2016, URL <http://conference.nber.org/confer/2016/SI2016/PRIT/Mastrobuoni.pdf>.

³ Perry, Walter L. et al., Predictive Policing - The Role of Crime Forecasting in Law Enforcement Operations, Santa Monica, CA, RAND Corporation, 2013, URL www.rand.org/pubs/research_reports/RR233; Gluba, Predictive Policing - eine Bestandsaufnahme, *Kriminalistik* 2014, Heft 6, 347-352, URL www.netzpolitik.org/wp-upload/LKA_NRW_Predictive_Policing.pdf;

⁴ Teknologirådet, Predictive Policing – Can Data Analysis Help the Police to be in the right place at the right time? 2015, URL <https://teknologiradet.no/wp-content/uploads/sites/19/2013/08/Predictive-policing.pdf>.

⁵ See however: Zedner, Lucia, Pre-Crime and pre-punishment/ a health warning, *Criminal Justice Matters*, issue 81/1, 2010, URL www.crimeandjustice.org.uk/publications/cjm/article/pre-crime-and-pre-punishment-health-warning; Joh, Elizabeth E., Policing by Numbers- Big Data and the Fourth Amendment., *Washington Law Review* Vol. 89;35, 58-66, 2014; Ferguson, A.G., Big Data and Predictive Reasonable Suspicion, 163 *U. Pa. L. Rev.* p 327, 2015; Hildebrandt, Mireille, New Animism in Policing, in Bradford et al., *Global Policing*, 2016, 406 ff.

⁶ Eg. Beck, C. & McCue, C., Predictive Policing – What can we learn from Wal-Mart and Amazon about Fighting Crime in a Recession?, *The Police Chief* 76 (11), 2009, URL <http://acmcst373ethics.weebly.com/uploads/2/9/6/2/29626713/police-chief-magazine.pdf>; Baraniuk, Chris, Pre-crime software recruited to track gang of thieves, *New Scientist*, 2015, URL www.newscientist.com/article/mg22530123-600-pre-crime-software-recruited-to-track-gang-of-thieves.

⁷ Eg. Smith, Jack IV, The Constitution Can't Defend You From Predictive Policing — Here's Why, *Tech.Mic*, 2015, URL <https://mic.com/articles/127823/how-pre-crime-law-works>; Edwards, Ezekiel, Predictive Policing Software Is More Accurate At Predicting Policing Than Predicting Crime, *Huffington Post*, 2016, URL www.huffingtonpost.com/entry/predictive-policing-reform_us_57c6ffe0e4b0e60d31dc9120.