

NYPD Predictive Policing Third Party Vendors

In December of 2016, the Brennan Center sued the New York City Police Department (NYPD) for records about the NYPD’s use of predictive policing technologies. After a ruling from the court, the Department finally began disclosing responsive documents in November 2018.

From these documents, the Brennan Center learned that, between January 2015 and June 2016, NYPD communicated extensively with three different commercial predictive policing providers, PredPol, Azavea, and Keystats. Between April and June 2016, the companies participated in a “[Predictive Policing Pilot Evaluation](#),” a comparative trial run that tested the accuracy of their predictive software. After completing the evaluation, however, the NYPD chose instead to develop its own predictive policing algorithm.

The Brennan Center’s FOIL litigation uncovered far more information about the processes and variables used by PredPol, Azavea, and Keystats. While NYPD’s opacity prevents us from definitively analyzing its algorithm, the development of the Department’s predictive policing system may have been influenced by the approaches these three companies took.

The chart below outlines what we know about the companies. It provides the variables each company used, public information about the companies’ clients, and relevant documents acquired as a result of the FOIL litigation. The variables were sent by each company to the NYPD as answers to a preliminary questionnaire before the trial evaluation. NYPD asked each company to list the data it needed from NYPD and any other data it planned to use. The client lists were compiled using company websites and public news stories.

NOTE: NYPD, [in an email to PredPol](#), expressed a preference for vendors gathering outside data (i.e. census data) for use in predictive modeling: “*We think prospective vendors can (and probably should) include other data they may have access to (e.g., census data etc.) beyond the data that will be provided by the NYPD. We don’t believe any vendor should be restricted from including other information to which they have access.*”

| Vendor | Algorithm & Variables | Known Clients | Relevant Documents |
|----------------|---|---|--|
| PredPol | <p>PredPol required the following data elements in order to participate in the NYPD trial evaluation:</p> <ol style="list-style-type: none"> 1. Type of crime, excluding sexual offenses and crimes against minors; 2. Date/time of crime; 3. Location of crime using latitudinal/longitudal coordinates <p>The PredPol website features a page on its algorithm. It lists the following as the “only 5 data points” it uses to make its predictions:</p> <ol style="list-style-type: none"> 1. Incident Identifier – For each crime, PredPol uses an identifier, such as docket number or incident ID, to uniquely identify the crime. 2. Crime or Event Type | <p>The “Testimonials” page on PredPol’s website lists a number of past or current clients:</p> <ol style="list-style-type: none"> 1. LAPD, Los Angeles, CA 2. Jefferson County, AL 3. Plainfield PD, Plainfield, NJ 4. Modesto PD, Modesto, CA Hagerstown Department of Police, Hagerstown, MD <p>News stories also include information about PredPol clients:</p> <ol style="list-style-type: none"> 5. Orange County, FL 6. Elgin, CA 7. Kent Police, UK 8. Richmond and Milpitas, CA used and then cut ties with PredPol 9. Oakland, CA explicitly rejected the technology <p>There is also evidence that PredPol has held numerous meetings and negotiations with</p> | <p>Brochure (NYC0000842-9); Business Card; “PredPol is Not a Black Box” (NYC0000747-67); Developer Documentation (NYC0002593-601); High-Level Test Results Presentation (NYC0000830-9); Questionnaire (NYC 0000738-46); Required Data Elements (NYC 0000660)</p> |

| | | | |
|---------------------------------|---|---|---|
| | <ol style="list-style-type: none"> 3. Location of Incident 4. Timestamps with Start and End Date/Time for Incident 5. Record Modified Date/Time for Incident – This is an optional field. Where possible, PredPol asks for the date/time of when a record is modified to catch anything that has been reclassified. | <p>other cities and institutions. A Motherboard public record request found PredPol contract documents, instructional manuals and slide presentations for using the software, and PredPol contract negotiation emails with government officials in the police departments of:</p> <ol style="list-style-type: none"> 1. South Jordan, UT 2. Mountain View, CA 3. Atlanta, GA 4. Haverhill, GA 5. Palo Alto, CA 6. Modesto, CA 7. Merced, CA 8. Livermore, CA 9. Tacoma, WA 10. University of California, Berkeley. | |
| <p>Azavea (HunchLab)</p> | <p>Azavea requested NYPD provide five (5) or more years of crime complaint data. This data is necessary for the algorithm. Each record needed to consist of at least the following information:</p> <ol style="list-style-type: none"> 1. Crime type 2. Latitude and Longitude (or projected coordinates) 3. Date and time of occurrence 4. Complaint number 5. Last Update date and time <p>In addition, Azavea also requested data that is “not required but enhances the model.” This includes the locations of:</p> <ol style="list-style-type: none"> 1. Schools 2. Hospitals 3. Subway Entrances 4. Mental Health Facilities 5. Methadone Clinics 6. Pawn Shops 7. Liquor Licenses 8. Restaurants 9. Laundry Facilities | <p>HunchLab was sold to Shotspotter in 2018, but there is little information on updated clients. Azavea, however, provides information on HunchLab’s clients while Azavea operated the program.</p> <p>HunchLab began as a project for the Philadelphia Police Department and the Office of the U.S. Attorney. Azavea’s promotional materials break down the clients between users of the original HunchLab software and users of the newer, HunchLab 2.0 software.</p> <ol style="list-style-type: none"> 1. Original Hunchlab: City of Tacoma and Pierce County, Washington; City of Philadelphia Police Department; and the Northwest Ohio Regional Information System (NORIS) 2. HunchLab 2.0: Philadelphia, PA; New Castle County, Delaware; and Lincoln, Nebraska. Piloted the software with additional municipalities, including a large European city, but are under nondisclosure agreements during trial periods. <p>News stories also provide client information:</p> <ol style="list-style-type: none"> 1. Chicago PD 2. St. Louis, MO (includes Ferguson) 3. In 2015, the city of Miami, Florida received a grant to start work with HunchLab. The project didn’t take off. | <p>2 Page Overview (NYC 0002431-2); Data Guide (NYC 0002366-72); “HunchLab: Under the Hood” (NYC 0002305-34); Pilot Program Executive Summary (NYC 0002335-65); Overview of Demonstration Project (NYC 0000595-45); Desired Data Elements (NYC 0002488-9), (NYC 0000649-50); Presentation to NYPD (R_NYC0000321-4); Questionnaire (NYC 0000679-727); Price Proposal (NYC 0002373-5)</p> |
| <p>Keystats</p> | <p>Asked NYPD for 3 years of data on:</p> <ul style="list-style-type: none"> • Locations of crimes • Crimes • Number of parolees and number of individuals on probation (including a breakdown by type of | <p>There is no public information on Keystats’ predictive policing clients. On its website, it lists testimonials from companies that have worked with its other data analytics programs:</p> <ol style="list-style-type: none"> 1. Lift Engine 2. MineTech Inc. | <p>“Managing Crime” (NYC 0002433-58); “Predictive Forecasting of Crime” (NYC 0000651-78); Questionnaire (NYC 0000728-37);</p> |

| | | | |
|--|--|---|---|
| | <p>past offense and average time since past offense)</p> <ul style="list-style-type: none"> • Dollar amount expensed on patrol cars • Budget for patrol officers or number of patrol officers • Any record of special events (i.e. events at the Javits Center, holidays, etc.) • Number of stop and frisk events <p>Keystats on its own planned to acquire:</p> <ul style="list-style-type: none"> • Ratio of income to poverty level in the past 12 months • Place of birth • Median income the past 12 months • Geographical mobility in the past year • Means of transportation to work • Population under 18 • Household type (including living alone) by relationship • Receipt of SSI, public assistance, or food stamps in past 12 months • Family type by presence and age of children under 18 • Household types (multigenerational, size) • Median age at first marriage • Marriages ending in widowhood • Divorces in the last year • Median duration of current marriages • School enrollment • Poverty status by school enrollment • Educational attainment for the population 25 years and over • Household language (noting limited English-speaking status) • Median household income in past 12 months • Per capita income in past 12 months | <p>3. I-Behavior Inc. 4. ANALYTICi</p> <p>The website frequently conflates the founder, Bilal Karriem, with Keystats itself. It lists the “founder’s clients” as including Bloomberg, The Dow Jones Company, i-Behavior, Financial Times, Federated Department Stores, Ralph Lauren, Penn Club, Forbes Magazine, The New York City Metro Transportation Authority, The Boston Police Department, and several major U.S. colleges, universities and non-profits. It does not specify what work was done for each client.</p> | <p>Desired Data Elements (NYC 0000651-78)</p> |
|--|--|---|---|