LS 123 Data, Prediction, and Law

Meeting 8

**Floyd v. New York, Ratchet, and Policing / Folium Heat Maps**

1. **Assignments**
   1. PSET 1 – published!
      1. remember that you want to produce visualizations that are understandable, accurate, and that shed some light on what the data represent (so, police “incidents” but that gives you editorial control)
      2. always think of the data type you are working with and check to see that your understanding of what should happen comports with Pandas’ understanding
      3. datetime data can be tricky
   2. Proposal due in less than two weeks (2/25)
      1. Research question?
      2. Data you plan to use, how it will help you answer question?
      3. Gain access to data and put it into form you can analyze?
2. **Floyd v. City of New York: reimpose constitutional constraints**
   1. **political & historical context**
      1. **crime, moral panic, Compstat (Adrian Schoolcraft and Village Voice)**

Compstat was intended to harness data about the incidence of crime to improve enforcement—efficiency

this was just at the tail end of a three decade increase in crime in NYC; another instance of the moral panic over crime continuing even as the actual problem diminished

Compstat allowed for closer monitoring of crime reduction efforts—scientific approach to policing

became baked into police organization and deciding achievement—the key point for allocating resources and managing personnel in a bureaucracy

judge the performance of units and individual officers by their measurable output (citations, UF-250s, arrests) rather than by some other metric (community satisfaction, number of crimes reported, constitutional rights protected)

police reporting of their own activities probably undercounts their activity (e.g., the reporting on UF-250 form is sparse, and even so often not done)

* + 1. **political commitment to stop & frisk (Giuliani & Bloomberg vs de Blasio)**

law and order was a pretty popular platform for running for mayor, especially after the higher levels of crime of the 1960s-80s

Both Mayors Rudy Giuliani and Michael Bloomberg were committed to aggressive policing; it looks like you are doing something even if what you are doing has little relationship to the overall incidence of crime

we want to deter people from carrying guns, said Bloomberg

the City was so committed that it initially got a stay of Judge Scheindlin’s ruling while the case was on appeal

the de Blasio Administration, with its different electoral base, wound up dropping the appeal

* 1. **factual basis: statistical and individualized evidence of rights violations**
     1. **Fagan study: proof of discrimination**
        1. Prof. Fagan’s study showed that “blacks and Hispanics” are stopped disproportionately relative to the number of people in a geographic unit, for
           1. total number of stops (which tracked racial composition, not crime rate;
           2. stops relative to white people in a given geographic unit;
           3. likelihood of arrest for Black people who were stopped, all else equal;
           4. likelihood of use of force for police encounters with Black and Hispanic subjects, all else equal;
           5. likelihood of further enforcement action after a stop (showing that Black subjects stopped more often for no reason)
        2. the baseline though, is the population of precinct, not the criminal population of a precinct, since you are stopping innocent people not offenders
     2. **individualized evidence of constitutional violations**
        1. but law, unlike social science, is based on the facts of the individual case, not generalizations across a large number of cases
        2. so Floyd decision makes findings in each case, and in most of the cases there was not an articulable suspicion to justify the stop, nor an individualized finding that a subject was armed and dangerous to justify the *Terry* search
        3. Terry v. Ohio: clarify rule of search (to allow warrantless searches when police believe crime is afoot and have articulable suspicion that a person is armed)
        4. Terry rule weakened over time to allow evidence other than weapons (drugs)
  2. **4th & 14th Amendment legal basis**
     1. 4th Amendment does not allow random searches
     2. so Judge Scheindlin sticks very strictly to the Terry exception: there has to be an articulable individualized suspicion that crime is afoot in order to make a stop
     3. and there has to be suspicion that someone is armed and dangerous for there to be a frisk
     4. 14th Am: cannot explicitly classify by race (unless it satisfies strict scrutiny, about which you can ask later), or apply the law so that it works in a discriminatory manner
     5. the latter is what the NYPD has done via a) deliberate indifference to a policy of making unconstitutional stops and searches; b) the practice was widespread enough to have the force of law; c) targeting racially defined groups for stops based on local crime suspect data
     6. this satisfies the *Monell* rule for determining municipal liability under sec. 1983
  3. **equitable relief**
     1. not about money damages, but plaintiffs sought equitable belief
     2. order to change practices and policies of NYPD

1. **Harcourt: the ratchet effect**
   1. what is the ratchet effect?
   2. what does a system of criminal justice need for the ratchet to fall into place?
      1. just need to use the carceral population as the “training set” for prediction
      2. you don’t even need a predictive algorithm, since humans will use a heuristic that can be based on looking like the carceral population
   3. it doesn’t matter whether the profiled group offends more or at the same rate; if you use a bit more resources there and use that as your training set, the ratchet will still happen
      1. note that it even works if people adjust their behavior: if people in the targeted group offend less and those in the non-targeted group offend more
      2. it seems to make rational use of resources when there is a higher offending group because you catch more criminals with the same amount of police resources
   4. but society lives with the malign effects
      1. equating Blacks, or Latinx people, or ex-convicts with the category “criminals”
      2. make it harder to do anything but incapacitate (as opposed to rehabilitate and reintegrate)
      3. makes it so that people in the non-targeted group (e.g., whites) start offending more than they would otherwise
   5. that said, the pendulum might be swinging away from the policies of the last 40 years (from incapacitation back to the rehabilitative model—maybe)
   6. but there seems to be a continuing desire to use predictive tools that are “trained” on the existing set of people who have been labeled offenders
      1. so we’re going to have to worry about the ratchet
      2. Harcourt says forget about it—prediction should be dropped and instead we should use some sort of random assignment
      3. that’s problematic, since we want police where there’s crime, but we don’t want them to find more than they need to merely because they are focused on a certain set of neighborhoods
   7. so how do we fix prediction
      1. use a different training set (the neighborhood population, not the population of offenders identified by the criminal justice system, as Floyd v. NYC suggests?)
      2. or just use it and try to correct its bad effects (shortening sentences, making sure people have jobs when they are released, providing training for those jobs, etc)
2. **Perils of PredPol**
   1. the journalists at The Markup took advantage of really careless data security practices by PredPol
   2. PredPol designed around property crime anyway, not crime in general
   3. was not a very accurate predictor even if it beat a human analyst in a clinical trial
   4. what they found is consistent with what Sarah Brayne and Bernard Harcourt found—if you train an algorithm on past police behavior, it will repeat past biased practice
   5. note also systematic differences in crime reporting; white crime victims seem systematically less likely to report the crime, based on the BJS’s Crime Victimization Survey
3. **Optional: Race in everyday policing and overreliance on very imperfectly generated data (Fryer and critics on estimating police violence)**
4. **bias: statistical, implicit, “taste based”**

statistical discrimination: you know that a phenomenon is distributed disproportionally in a certain group

as an example: Tay Sachs disease is found overwhelmingly in Jews from E. Europe, so if you are making a public health intervention it makes sense to screen people from that population

so, if you think that drug dealing is more prevalent in a particular community, e.g. African American men under 30, then you will find disproportionally more people in that group who are engaged in it

and, to be efficient, you should concentrate your enforcement on that demographic

of course, that belief is not really supported by evidence, if your reference group is all people, both those who are offenders and non-offenders

we will get to base rate assumptions in a minute

this is statistical discrimination: you have prior knowledge that the problem of interest is distributed disproportionally

[today Tay Sachs is rare among Ashkenazi Jews, who have been doing screening for decades—only 1 in the 15 cases in US in 2013; so among the original group the disease is almost gone, but it lives on among those who are not in the highest risk category]

implicit bias: using race as a heuristic – rather than “thinking slow” (Kahnemann) you are thinking fast and deciding whether or not to stop, search, arrest, use force based on race of the person

“taste based” as the economists so blandly put it is intentional discrimination: I will act against this person because I don’t like her group

1. **base-rate assumptions in determining discrimination**

so how do you decide whether or not discrimination is statistical (and therefore a rational response to the underlying probability distribution of a problem) or intentional?

compare it to a base rate (as you would to decide, e.g., whether or not vaccines cause autism)—for this we can use the tools of statistics to estimate the likelihood we would get the results we have drawn given the characteristics of the underlying population

but what base rate to use? do you use the proportion of a racial or ethnic group in the existing population of offenders, (like the NYPD asserts or as we have seen in earlier readings), or do you use the proportion of a group in the community? (Harcourt)

the problem with using the offending population to decide the base rate is that it reflects the initial state of bias of the selection process—if the criminal adjudication system was biased at the initial time period, then you have overrepresented groups (e.g., African American and Latino males under 30)

1. **from profiling to invidious prediction**

profiling: using behavior to predict the likelihood of being engaged in criminal activity (remembering that you still need to have reasonable suspicion that crime is afoot in order to make a stop, and that someone is armed in order to frisk, and that probable cause is required for an arrest)

when does that slide over into using the lazy heuristic of race to decide when to stop someone? that was what Floyd addressed

1. **mapping lab 3**
   1. heat maps and heat maps over time – note that you will need to get the data into the type that the heat map package is expecting
   2. you will need this for the mapping visualization in Problem Set 1
   3. discussion: what do we learn?
      1. Reporting artifacts (unless most crime does happen at intersections)
      2. Incidents happen on major streets and in commercial areas
      3. Hard to see change over time in the animated heatmap—maybe aggregate the dates more?
      4. Let’s say you were the Chief of Police in Berkeley. What if you used the Berkeley heatmap as a decision aid? Where would you deploy police? What if you were a criminal? Where would you assume a police presence?