

intro

adam okulicz-kozaryn

`adam.okulicz.kozaryn@gmail.com`

this version: Friday 5th September, 2025 10:49

intros (others overlap? collaborate!)

- about myself <http://theaok.github.io>
 - http://theaok.github.io/docs/livability-nov19_aok.pdf
 - <https://journals.sagepub.com/doi/full/10.1177/10780874231221205>
 - https://theaok.github.io/docs/rel_inn.pdf
- what do you research/interested in?
 - substantive topic like edu, inc, pov
 - geographic extent like USA, NJ, City of Camden
 - U/A or level of analysis like states, counties, tracts
 - hypothesis? eg more green more happiness; more rel less cre
- what data and variables?

outline

why?

what is GIS?

general overview; approach and policies

outline

why?

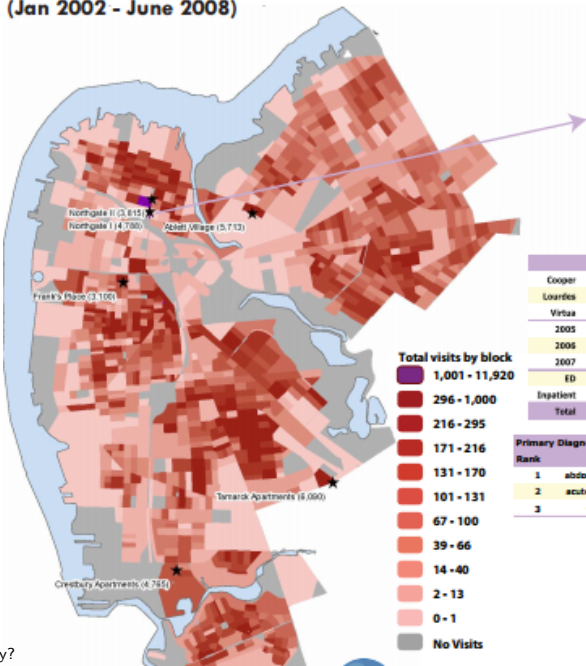
what is GIS?

general overview; approach and policies

a general thought about maps

- maps are (almost) always useful
- no matter what you study, it takes place somewhere and place matters [eg pos spatial correlation; john snow cholera outbreak; sas guy: faulty devices us map]
- so use maps for whatever you study in other classes
- and all other projects outside of school
- it will help with understanding of what's going on

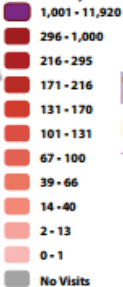
Inpatient and Emergency Room Visits in Camden, NJ (Jan 2002 - June 2008)



Northgate I Public Housing



Total visits by block



	Visits	Patients	Charges	Receipts	Collected
Cooper	3,172	749	\$42,144,897	\$4,994,658	12%
Louder	811	337	\$7,848,809	\$1,038,611	13%
Virba	805	331	\$1,742,467	\$345,092	20%
2005	838	370	\$10,834,420	\$1,268,373	12%
2006	738	355	\$6,867,995	\$883,549	13%
2007	790	369	\$7,979,262	\$903,181	11%
ED	3882	978	\$6,150,592	\$864,019	14%
Inpatient	906	408	\$45,584,781	\$5,504,342	12%
Total	4,788	1,070	\$51,735,374	\$6,368,361	12%

Primary Diagnosis

Rank	ED	Inpatient
1	abdominal pain (789.0)	live birth (V3X.0)
2	acute URI NOS (465.9)	chest pain (786.5)
3	chest pain (786.5)	congestive heart failure NOS (428.0)



why GIS?

- govt (local, intl, etc)
 - zoning, public works (streets, water, sewer, garbage, land ownership/valuation, public safety (fire and police))
 - natural resources (oil, gas, coal, etc)
- uni: “no matter what you study, it takes place somewhere”
- business
 - retail site selection & customer analysis
 - logistics: vehicle tracking & routing
 - natural resource exploration (petroleum, etc.)
 - civil engineering/construction
- can do a lot with GIS! gives specific, marketable job skills

outline

why?

what is GIS?

general overview; approach and policies

what is there?

- GIS=Geographic Information Systems
 - Geographic: Cities, Roads, Rivers, Countries, etc
 - Information Systems: data, software, programming,
 - like MIS (Management Information Systems) or IT
- GIS=CS(graphics, database/sys adm, coding)+geography
- really, much of the GIS is data management
- geographic=geospatial=spatial

past and future

- much of the GIS has been (still is) done with ArcGIS/ArcMap
 - this is more of a dinosaur, however
- the future is opensource like Python

outline

why?

what is GIS?

general overview; approach and policies

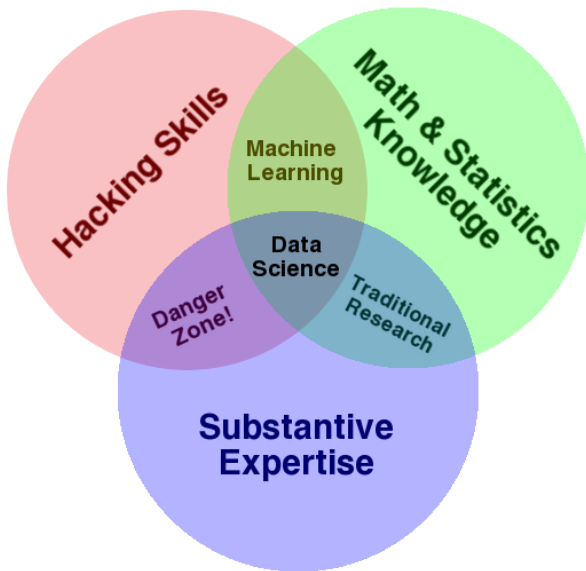
approach

- collaborate! (prep for class, work on ps, etc)
- software class! applied, data-driven
- free to choose data/topics as long as relevant to the class
 - bring your own data; kill 2 birds with one stone
 - you need data (with geo: address, city, county, etc)
 - have research interest? you'll find data about it!
 - we'll be going over data sources

what data?

- passionate (and knowledgeable) about
- quality/quantity easily available
- career advancement in future [can also just start with data from current workplace]

substantive like 30% use it!



awesome and free books and tutorials

- google python class, i love it, its fun, but its rather general (*not* data science or gis) and for IT folks
<https://developers.google.com/edu/python/?csw=1>
- definitely one of my favorites! and specifically data science
<https://jakevdp.github.io/PythonDataScienceHandbook/>
- another classic, also general and for IT; this one is also complete and lengthy <https://diveintopython3.net>
- <https://realpython.com>
- creator of Pandas, uptodate <https://wesmckinney.com/book>, incl notebooks:
<https://github.com/wesm/pydata-book>
- <https://github.com/jupyter/jupyter/wiki#>
a-gallery-of-interesting-jupyter-notebooks

more resources

- social sciency GIS <https://autogis-site.readthedocs.io/en/latest> and https://darribas.org/gds_course/content/home.html
- natural sciency GIS <https://www.pyngl.ucar.edu/Examples/gallery.shtml> and <https://cdat.llnl.gov/gallery.html>
- a ton online: vids on youtube, etc—what you guys find most useful? let me know! may be extra credit; i'll add it and it can help future cohorts :)
- also, can have labs/zoom sessions—say thu at 4? let me know!