

JENNIFER A STARK, PH.D

@\_JASTARK

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**THERE'S AN API  
FOR THAT**

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# API WHAT?

- ▶ Application Programming Interface
- ▶ “set of routines, protocols, and tools for building software and applications”  
[Wikipedia]
- ▶ Usually used when someone makes an app that uses data
- ▶ Access:
  - ▶ Databases (comment sections on websites, open government data)
  - ▶ streaming data (e.g uber, twitter)



{ api }

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## OTHER API EXAMPLES

- ▶ Weather data (<http://openweathermap.org/api>)
- ▶ Social media (Instagram, Flickr, Facebook)
- ▶ Soundcloud (<https://developers.soundcloud.com/docs/api/guide>)
- ▶ Slack integration (eg auto message when a GitHub repository gets updated)

## APIS USED FOR WASHINGTON POST UBER STORY

- ▶ [WaPo story link](#)
- ▶ The FCC provides an API that returns a full address when given a longitude and latitude: <https://www.fcc.gov/general/census-block-conversions-api>
- ▶ Two Uber APIs:
  - ▶ One returns a surge price multiplier for a given longitude + latitude
  - ▶ The other returns an estimated wait time for any uber product for said longitude and latitude

## TWITTER COMMENT BOT PROJECT – 3 DIFFERENT APIS

- ▶ Automatically tweet .png of comments from NPR, NYT, or other news articles on the web
- ▶ Twitter API provides access to tweet stream, with fields that can be used to filter tweets (eg. tweet needs to contain 'npr')
- ▶ NYT provides API to access their comments sections
- ▶ Disqus (commenting platform) provides an API to access comments
- ▶ Each have different rate limits, different JSON fields, different options!



WORKING SCENARIO

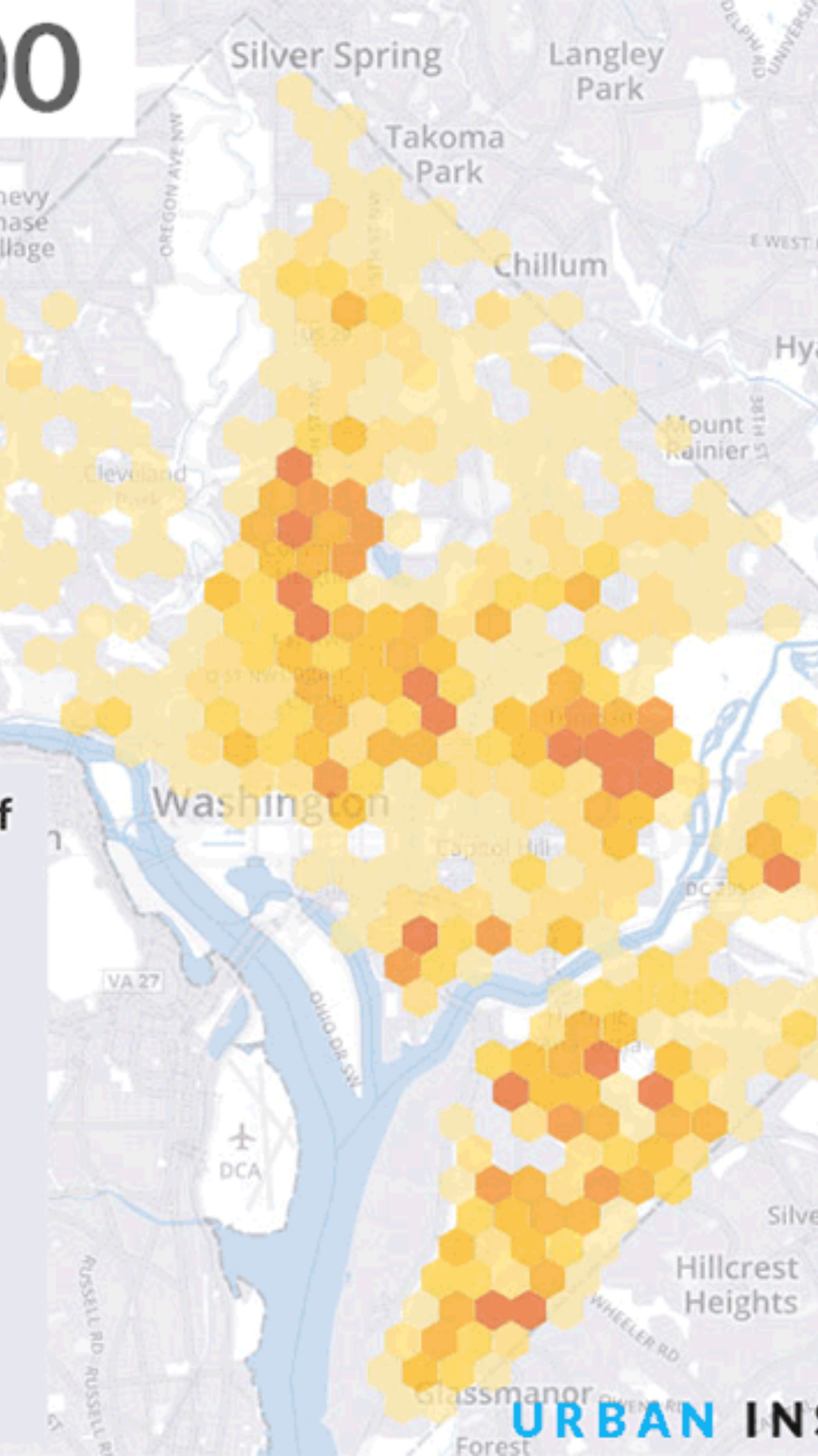
WMATA  
INCIDENTS

# INGREDIENTS

- ▶ IPython Notebook - step-by-step
- ▶ python scripts - automate collection
- ▶ API <https://developer.wmata.com/docs/services/>
- ▶ However, great as this is (I see so much potential!), the app needs to be approved before you get access...Not practical for a workshop







WORKING SCENARIO

DC  
CRIME



# INGREDIENTS

- ▶ IPython Notebook - step-by-step
- ▶ python scripts - automate collection
- ▶ Crime data: Years, 30 days, filtered
- ▶ API : [http://opendata.dc.gov/datasets/6eaf3e9713de44d3aa103622d51053b5\\_9?mapSize=map-normal](http://opendata.dc.gov/datasets/6eaf3e9713de44d3aa103622d51053b5_9?mapSize=map-normal)
- ▶ No keys or tokens needed!



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## (RE)SOURCES

- ▶ Codecademy tutorials: <https://www.codecademy.com/apis>
- ▶ Scroll down to JSON and APIs section: <https://automatetheboringstuff.com/chapter14/>
- ▶ How to read response codes: <http://www.restapitutorial.com/httpstatuscodes.html>
- ▶ Always check Terms of Use and rate limits.