# Income Inequality, Access Inequality, and Geography

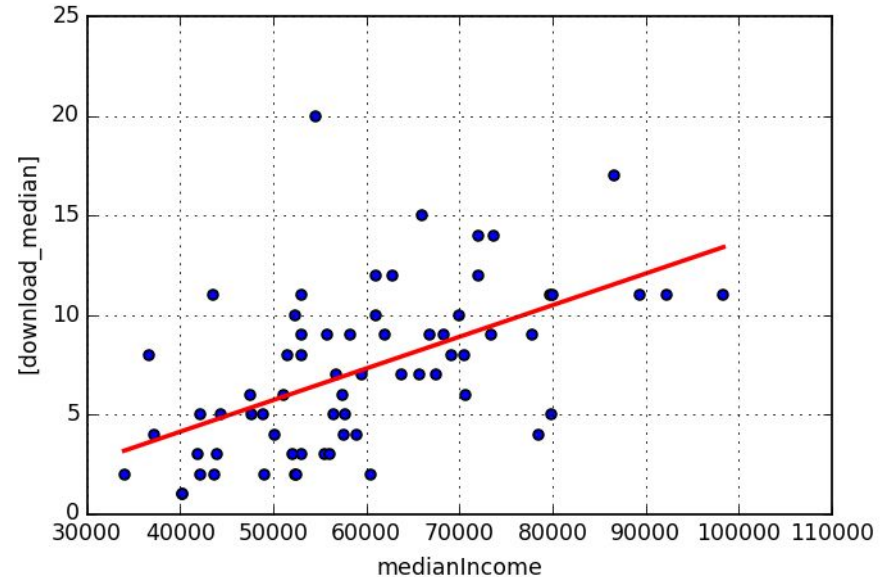Oana Niculaescu ( with Measurement Lab )
https://twitter.com/littleelf11

# What we wanted to understand…

- Does socioeconomic status have an impact on the type of internet connection USA communities receive?

# Let's talk about the data!

- two data sets used in the study:
  - M-Lab data set
  - broadbandmap.gov data set
- comparing those data sets against each other - accuracy

# M-Lab

- globally collected data
- aggregated using composable statistics
- data used for the New England and South Atlantic regions of USA
- aggregation at county level

# broadbandmap.gov

- National Broadband Map (NBM)

- purpose: USA regulator's broadband mapping effort

- provides data about: availability, speed, and location of broadband services, as well as the broadband services that community institutions, such as schools, libraries and hospitals use
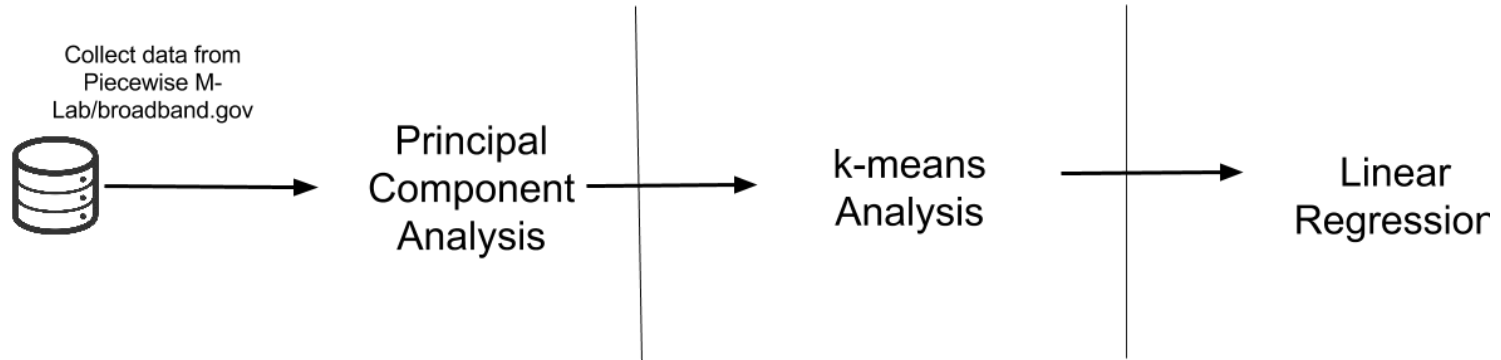
# What was the methodology?

- pipeline of statistical analysing functions
- compare the results obtained on the M-Lab data set with those obtained on the broadbandmap.gov
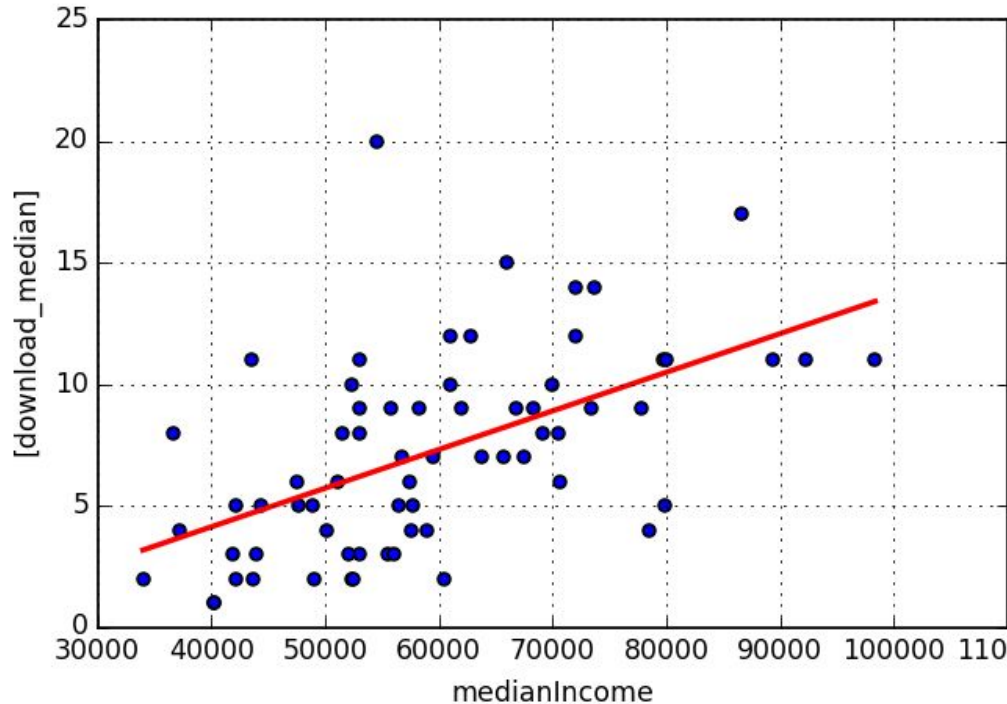- test the results on other regions of USA as well

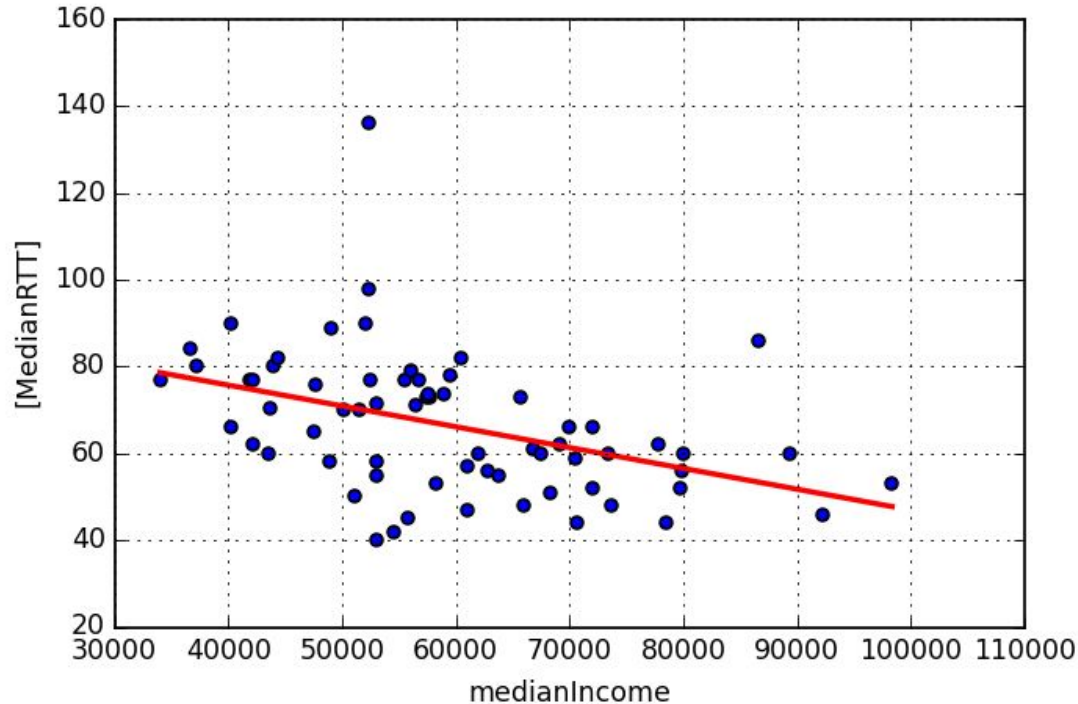# Pipeline work on the data

# Results and what do they mean



The higher the income, the higher the download speed for those communities.

At the median average income of $70k and above, the performance is 1.5 - 1.7 x better than communities where the median income is averaging at $50k and below.
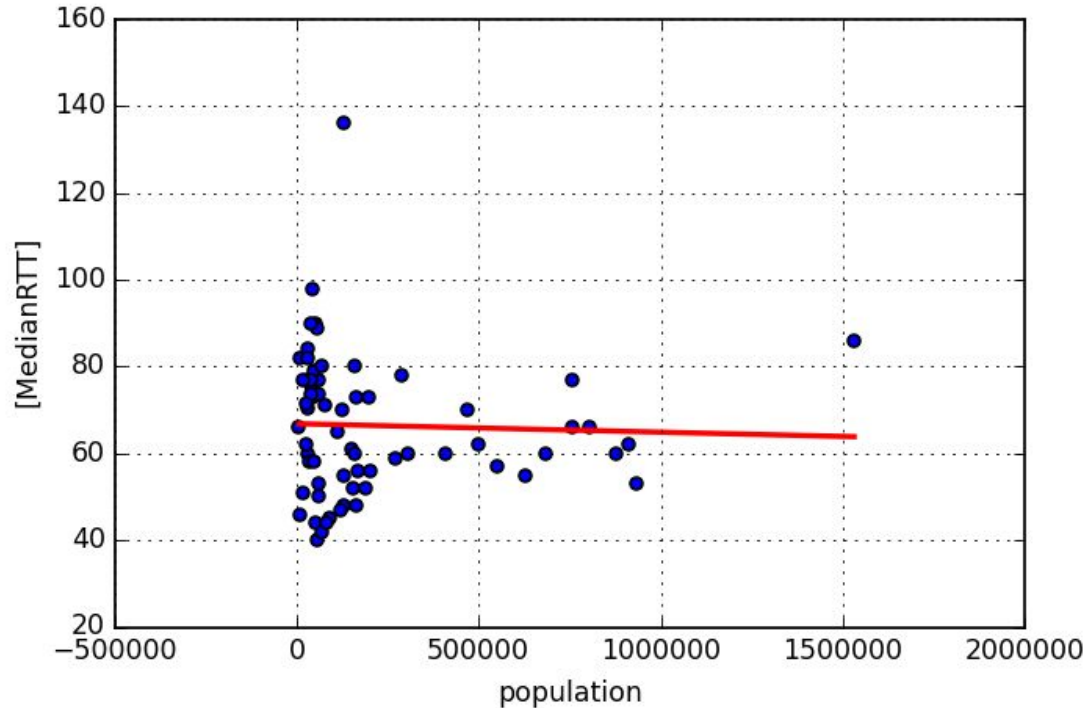
# Results cont.



The higher the income, the lower the latency.

e.g. VoIP, which is a useful service for economically disadvantaged populations may be out of reach.

# Results cont.



Population is not such a strong determinant of quality of service

# Future work and why is it important

- clear separation in service between rural and urban population: rich people in cities get much better internet performance than poor people in rural areas

- why are those communities more attractive to ISPs?

- how can we change this trend?

- extend the study : do similar work globally

# **Conclusion**

- broadband data transparency is important

- level the field, continue the work on broadband access analysis in Europe and other places

# Links

- M-Lab: http://www.measurementlab.net/
- www.broadbandmap.gov
- Results and full methodology: http://elf11.github.io/ & https://github.com/elf11/Outreachy-Mlab
- Oana Niculaescu: oana.niculaescu@gmail.com
- http://elf11.github.io/
- https://github.com/elf11/Outreachy-Mlab