**Introduction to Urban Science.**

**Assignment 6: Inequality, Community Organization and Slum development**

**Either:**

**Qualitative Exercise [<500 words]**

Many challenges of poverty, human development, and lack of proper housing in slums can be understood from the perspective of lack of connectivity for individuals and households, physical, social and economic:

1. List and briefly give 3 reasons why providing a dwelling with a street front facilitates services and socioeconomic life [~150 words]. You can point to passages from the two papers below (give pages and lines).

2. As services are delivered to houses and places of work in informal settlements, does this automatically lead to improvements in socioeconomic opportunities? Why (not)? [~100 words]

3. If you were the Mayor and wanted to make sure that expanding services and land tenure leads to the socioeconomic development of households, what programs would you want to **couple with the physical expansion of urban services** and land tenure? [~100 words]

4. How may this expansion of public services and infrastructure be paid for as a “virtuous cycle” of development? What data would you want to collect to assess if your plans - as Mayor - are working? (~150 words).  Submit a causal diagram supporting your answers to 3. and 4., showing the virtuous cycle of infrastructural and socioeconomic development you are conjecturing, including what to measure and how city services are to be paid for.

**Resources:**

Paper Towards Cities without Slums (link Towards\_Cities\_Without\_Slums.pdf)

UN-Habitat report: (link UN-habitat\_2012\_Streets as tools for urban transformation in slums.pdf)

**Or**

**Quantitative Exercise:**

**Real Estate Prices and Neighborhood Inequality:**  Use data from Zillow (linked below) over time and at the neighborhood level to assess growing inequality in the value of housing in US cities:

1. Plot the Price / Sq foot of housing in Chicago neighborhoods. You can use this script (link zillow\_neighborhood\_housing\_time.py) or write your own. Submit an annotated plot and describe (in the caption) how home values have converged or diverged across (rich and poor) neighborhoods over time and point out any salient times and neighborhoods (3 examples).
2. Do the same for the total value of homes (not per sq foot), (link zillow\_home\_value.py). Submit your own code, if you do not use the one provided).
3. In both cases, compute the Gini coefficient of housing prices for Chicago across neighborhoods (you can find many python implementations online) over time and provide a plot with an explanatory caption. Do you think that these indices of inequality are representative of the dynamics of the most extreme neighborhoods. Discuss briefly why?
4. **(Optional)** For an extra point, compare the situation in Chicago to a few other US cities (submit a plot and caption, or explanatory text). Are the increases/decreases in inequality observed in Chicago general? Meaning that they are also observed in other cities? Is Chicago more or less extreme compared to, say, LA or NYC?

If you want to update the data, you can download it from Zillow following this [link](https://www.zillow.com/research/data/).

Data files provided: link Neighborhood\_MedianValuePerSqft\_AllHomes\_2016.csv

Neighborhood\_zhvi\_uc\_sfr\_sm\_sa\_mon.csv ; This is a large file, you can download it [here](https://www.dropbox.com/scl/fi/ka1c8rwtuvo6yrok493nr/Neighborhood_zhvi_uc_sfr_sm_sa_mon.csv?rlkey=xzpxwi9byvu1jmtdyumng2sze&dl=0)