Optimal Venue Location for Chicago

- Problem: businesses want to find optimal locations for their venues

- Solutions: association rules for existing venues, deep data mining of existing consumption patterns

- However existing patterns are mostly already exploited by other businesses and large chains, for profitable operations it is necessary to find new market niches

Supply and Demand

- We can try to model supply and demand for the venue in order to optimize the choice of location

- Demand is difficult to model statically, it has many components and also changes over time

- We can attempt to approximate demand with the mean income of an area, this is unrealized potential demand

- An unexploited high income area is a potential market niche

Chicago

- Focus on Chicago, needed data is available
- We want a low level granularity with homogenous populations
- Census tract area has 4000 homogenous people
- Unlike Al Capone, we dodge the competition instead of eliminating it

Chicago High Income Areas
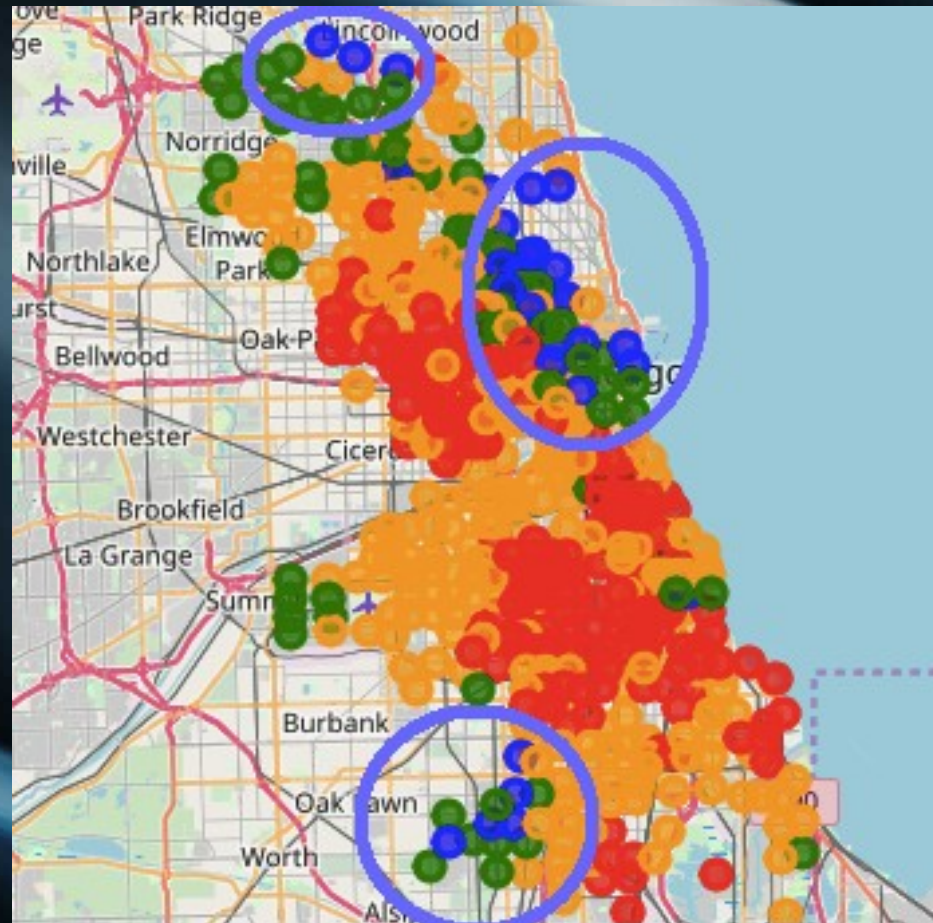
Chicago High Income Areas

- Area close to Lincoln Park and the business district, The Loop

- Suburbs in the North and Southwest

- Primary focus on the Lincoln Park area in the NW city center for venue placement
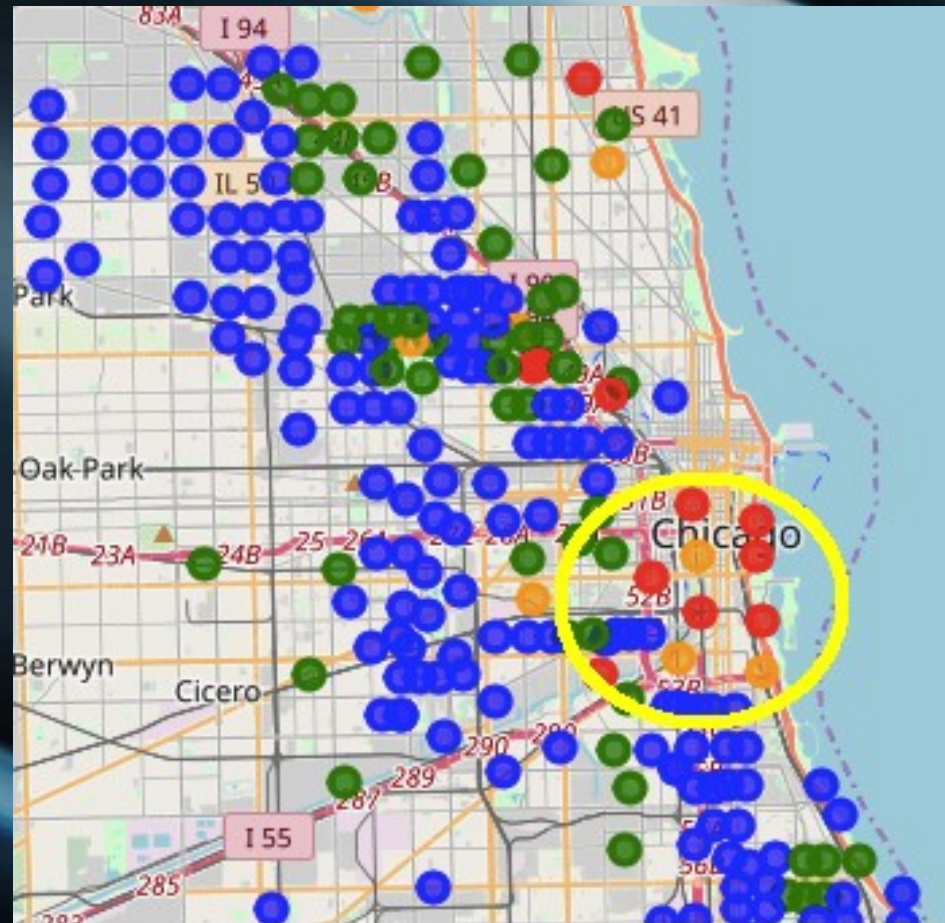
Italian Venues

Italian Venues

- Competitors in the NW, Little Italy, and Lincoln Park

- One sweetspot area in the city center without competitors, according to Foursquare

- Italian venues correlate somewhat with income, possible market inefficiencies

Asian Venues

Asian Venues

- Competition concentrated in the business district, The Loop

- Unexploited areas north of the Loop

- Competition maybe focused on lunches for business people

- Possible market niche in richer residential areas

- The rich suburbs almost completely unexploited

Conclusions

- More research needed for fully automated approach

- Possible method Deep Learning for Anomaly Detection