



**P A**  
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**ANNUAL**  
**MEETING**  
ST. LOUIS, MO

# **Social Construction of Urban Space**

**Adam Visokay**  
**University of Washington**

**Session on AI-Driven Data Innovation**

# The fantastic team



Ruth Bagley



Ian Kennedy



Chris Hess



Kyle Crowder



Rob Voigt



Denis Peskoff

# Studying neighborhoods is important...but difficult

Google Scholar

neighborhoods

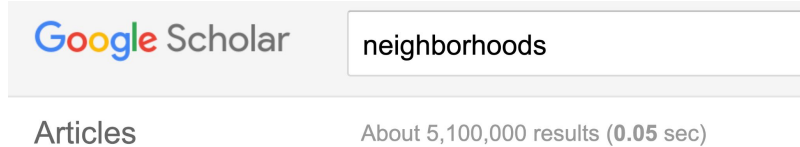
Articles

About 5,100,000 results (0.05 sec)

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“For over a century, urban scholars have debated how people define neighborhoods” Hwang (2015)

# Studying neighborhoods is important...but difficult



“For over a century, urban scholars have debated how people define neighborhoods” Hwang (2015)

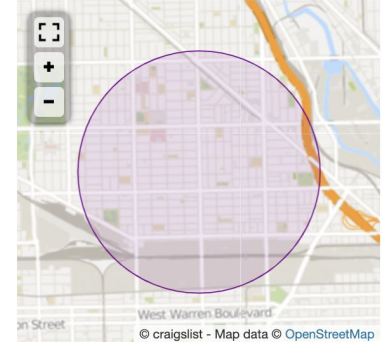
Many stakeholders with conflicting imaginaries e.g. tenants, landlords, municipal admin, corporations, community members ...

... measured with surveys, interviews, focus groups, admin boundaries, advertisements.

Craigslist is a wonderful data source, but brings many challenges, too.

Which neighborhood is this apartment actually in?

**\$3,145 / 3br - JUST LISTED: Luxury 3-Bed in Great East Village Location (East Village / Ukrainian Village / West Town)**



**3BR / 1Ba available jul 1**

**rent period: monthly**

**cats are OK - purrr**

## Just Listed for a 7/1 Lease Start

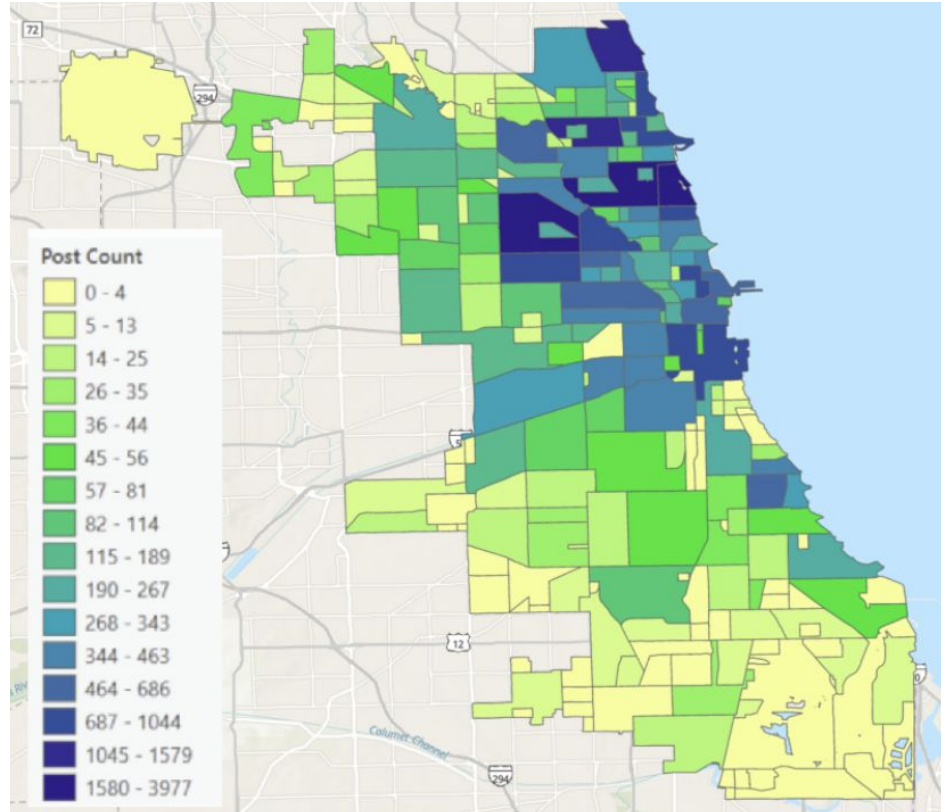
Live in the heart of West Town! This luxurious, newly-rehabbed apartment offers a unique living experience in the city. Enjoy modern amenities like stainless steel appliances, high-end finishes, and modern technologies and convenience. Your new apartment offers the perfect mix of city life and comfort. This newly-rehabbed three-bedroom/one-bathroom apartment is located in the historic Ukrainian Village neighborhood. Featuring spacious bedrooms and luxury finishes, this apartment has everything you want. Make it your new home today!

Great Ukrainian Village location with easy access to North/Damen Blue Line stop (0.8 mi.), Chicago Avenue bars and restaurants (0.1 mi.), Division Street bars, restaurants, sidewalk cafes (0.4 mi.), Kennedy Expressway (1 mi.) and just over 1 mile to the 606 elevated trail.

# Chicago 2018-2024

Helena webscraper (see Chasins et al., 2018, Hess and Chasins, 2022)

n=30,531 listings after pre-processing



# Mention(s)

... Disclaimer: Pricing, availability, and specials are subject to change at any time and without notice. HotSpot Rentals services the following neighborhoods: South Loop, Printers Row, Near North, River North, Gold Coast, West Loop, Fulton River District, West Loop Gate, The Loop, Streeterville, Lakeshore East, New East Side, Old Town, Medical District, University Village, Near North, River West, Lincoln Park South, Lakeview, Uptown, Ukrainian Village, Wicker Park, Edgewater, Ravenswood, Bronzeville, Logan Square.

# Mention(s)

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# Claim(s)

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... this fully restored **East Lakeview** property sits on a beautiful tree-lined street located in the heart of the popular **Wrigleyville** neighborhood...

String-matching (does keyword 'lakeview' appear here?) is fine for mentions, but not as well suited to claims.

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Instead, we try an LLM.

#### BASE\_PROMPT

Extract the Chicago neighborhood from the rental text.

Rules:

- NEVER use the address or zip code to determine the neighborhood
- Choose only explicitly stated neighborhood from possible responses
- If neighborhood is unclear mark it as [unknown]
- Format precision: "lakeview" but not "x, y, z" for "lakeview residence near x, y, z"

text: {body}

Possible responses: {zillow\_list}

Return only:

label: [neighborhood]

Table 1: Prompt format for extracting Chicago neighborhood claims from rental listings.

String-matching (does keyword 'lakeview' appear here?) is fine for mentions, but not as well suited to claims.

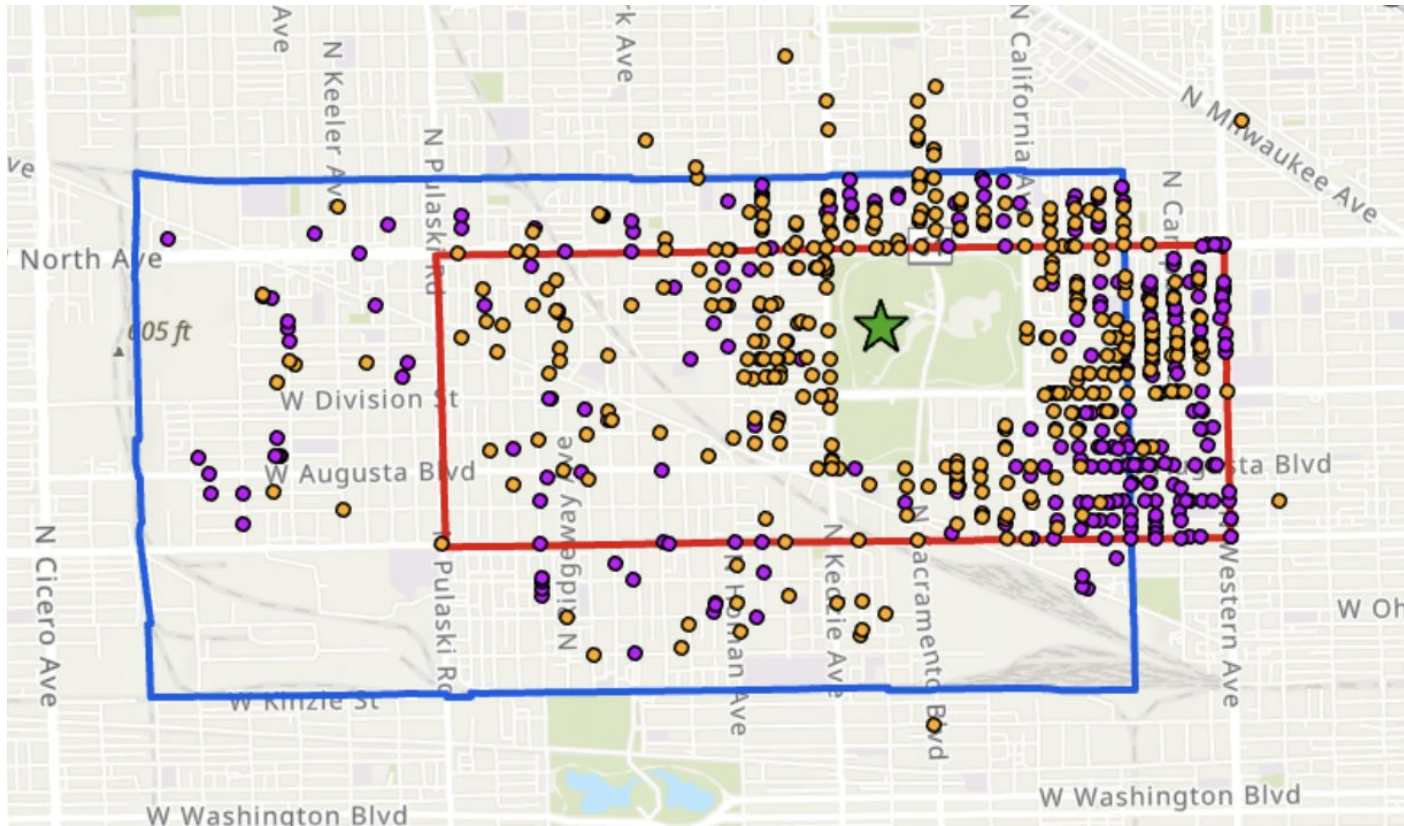
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<b>Metric</b>	<b>String Match</b>	<b>GPT-4.1</b>
Accuracy	0.79	0.85
Macro Average F1	0.62	0.70
Weighted Average F1	0.77	0.85

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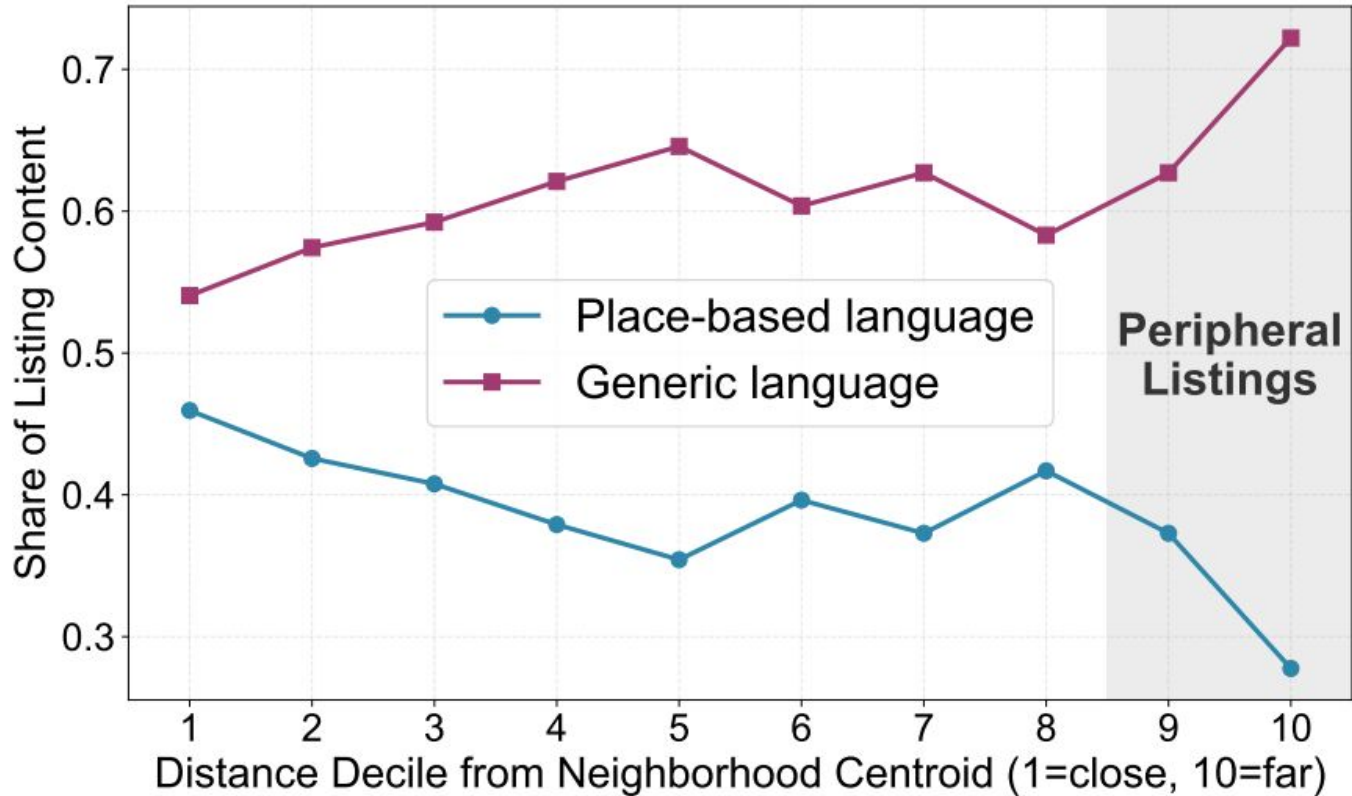
# “Social center” with Chicago and Zillow Boundaries



# Topic Modeling (LDA with tomotopy)

Topics	Common Words
1. Furnished Short-Term <i>3.6% of corpus</i>	lease, home, month, furnished, mo, amenity, community, view, apartment, offer, blueground, access, neighborhood, enjoy, stay, loop
2. Rental Terms <i>25.9% of corpus</i>	fee, lease, included, tenant, credit, street, pay, deposit, application, large, move, heat, per, gas, security, pet, utility
3. Property Search <i>1.1% of corpus</i>	apartment, rental, property, place, hill, cheap, grove, find, apt, height, center, agency, search, local, credit
4. Spanish Language <i>2.1% of corpus</i>	apartment, rental, property, place, hill, cheap, alquiler, propiedades, buscar, alquileres, height, search, agency, google
5. Amenities <i>35.0% of corpus</i>	floor, central, new, appliance, dishwasher, heat, large, space, air, stainless, feature, modern, steel, living, cat, closet
6. Listing Conditions <i>13.3% of corpus</i>	subject, unit, change, price, center, property, onsite, hour, availability, special, dog, pricing, studio, fitness, housing, amenity
7. Contact Information <i>18.9% of corpus</i>	contact, info, show, click, feature, view, call, id, renovated, , included, closet

# Language used in posts varies with proximity to center



## Neighborhood “claims” processes:

- (1) **Overlapping claims:** conflicting claims due to different conceptions of the same space.
- (2) **Extending-boundary claims:** listings appeal to feasible but different adjacent neighborhoods.
- (3) **Reputation-laundering claims:** strong claims to neighborhoods in entirely different parts of the city.

## Main takeaways

Impact of LLMs on this task may be transformative in the ability to quickly expand the scope of analysis, the quantifiable improvement on simple algorithms designed by experts is perhaps more incremental.

Nevertheless, we can learn a lot by really focusing on aligning measurement with conceptualization.

# Preprint

## Social Construction of Urban Space: Using LLMs to Identify Neighborhood Boundaries From Craigslist Ads

Adam Visokay <sup>†\*</sup> and Ruth Bagley <sup>‡\*</sup>, Ian Kennedy <sup>§</sup>, Chris Hess <sup>¶</sup>,  
Kyle Crowder <sup>†</sup>, Rob Voigt <sup>‡</sup>, Denis Peskoff <sup>‡</sup>

University of Washington, Department of Sociology <sup>†</sup>

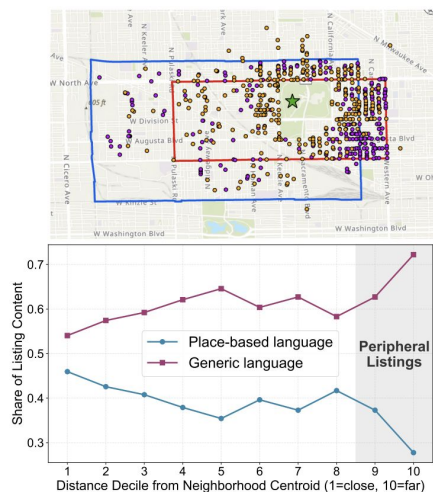
Northwestern University, Department of Linguistics <sup>‡</sup>

University of Illinois Chicago, Department of Sociology <sup>§</sup>

Kennesaw State University, Department of Sociology and Criminal Justice <sup>¶</sup>

### Abstract

Rental listings offer a window into how urban space is socially constructed through language. We analyze Chicago Craigslist rental advertisements from 2018 to 2024 to examine how listing agents characterize neighborhoods, identifying mismatches between institutional boundaries and neighborhood claims. Through manual and large language model annotation, we classify unstructured listings from Craigslist according to their neighborhood. Further geospatial analysis reveals three distinct patterns: properties with conflicting neighborhood designations due to competing spatial definitions, border properties with valid claims to adjacent neighborhoods, and “reputation laundering” where listings claim association with distant, desirable neighborhoods. Through topic modeling, we identify patterns that correlate with spatial positioning: listings further from neighborhood centers emphasize different



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# Thank you!

Adam Visokay

[avisokay@uw.edu](mailto:avisokay@uw.edu)

[avisokay.github.io](https://avisokay.github.io)