

Website sharing and introducing DP in real world

2021.11.17



浙江大学

计算机系统结构实验室
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Website: [Arxiv Sanity Preserver \(arxiv-sanity.com\)](https://arxiv-sanity.com)

GitHub: [karpathy/arxiv-sanity-preserver: Web interface for browsing, search and filtering recent arxiv submissions \(github.com\)](https://github.com/karpathy/arxiv-sanity-preserver)



- Track recent papers
- Search for papers
- Add papers to a personal library
- Get personalized recommendations
- (AI Only) Replicate the website to any of your favorite subsets of Arxiv by changing parameter

Website: [ccf-deadlines \(ccfdddl.github.io\)](https://ccfdddl.github.io)

GitHub: [ccfdddl/ccf-deadlines](https://github.com/ccfdddl/ccf-deadlines):  CCF recommendation conference Deadline Countdowns / Please star this project, thanks~ (github.com)

CCF Conference Deadlines



766

Latest: Update cvpr.yml close #66 !!!

Countdowns to CCF conference deadlines. To add/edit a conference, [send a pull request](#).

☒ 全选

☐ 计算机体系结构/并行与分布计算/存储系统

☒ 计算机网络

☒ 网络与信息安全

☐ 软件工程/系统软件/程序设计语言

☐ 数据库/数据挖掘/内容检索

☐ 计算机科学理论

☐ 计算机图形学与多媒体

☐ 人工智能

☐ 人机交互与普适计算

☐ 交叉/综合/新兴

Deadlines are shown in Asia/Hong_Kong time.

CCF A

CCF B

CCF C


S&P 2022 ☆

May 22-26, 2022 None

IEEE Symposium on Security and Privacy

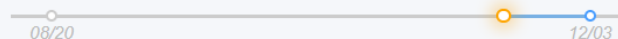
CCF A NOTE: 3 review cycles

网络与信息安全

17 days 03 h 17 m 43 s 

Deadline: Fri Dec 3rd 2021 19:59:59 HKT (2021-12-02 23:59:59 UTC-12)

website: <https://www.ieee-security.org/TC/SP2022/>




USENIX Security 2022 ☆

August 10-12, 2022 BOSTON, MA, USA

USENIX Security Symposium

CCF A NOTE: 3 review cycles

网络与信息安全

78 days 03 h 17 m 43 s 

Deadline: Wed Feb 2nd 2022 19:59:59 HKT (2022-02-01 23:59:59 UTC-12)

website: <https://www.usenix.org/conference/usenixsecurity22>




MobiCom 2022 ☆

TBD TBD

ACM Annual International Conference On Mobile Computing And Networking

CCF A NOTE: abstract deadline on Mar 19, 2022.

计算机网络

129 days 22 h 17 m 43 s 

Deadline: Sat Mar 26th 2022 14:59:59 HKT (2022-03-25 23:59:59 UTC-7)

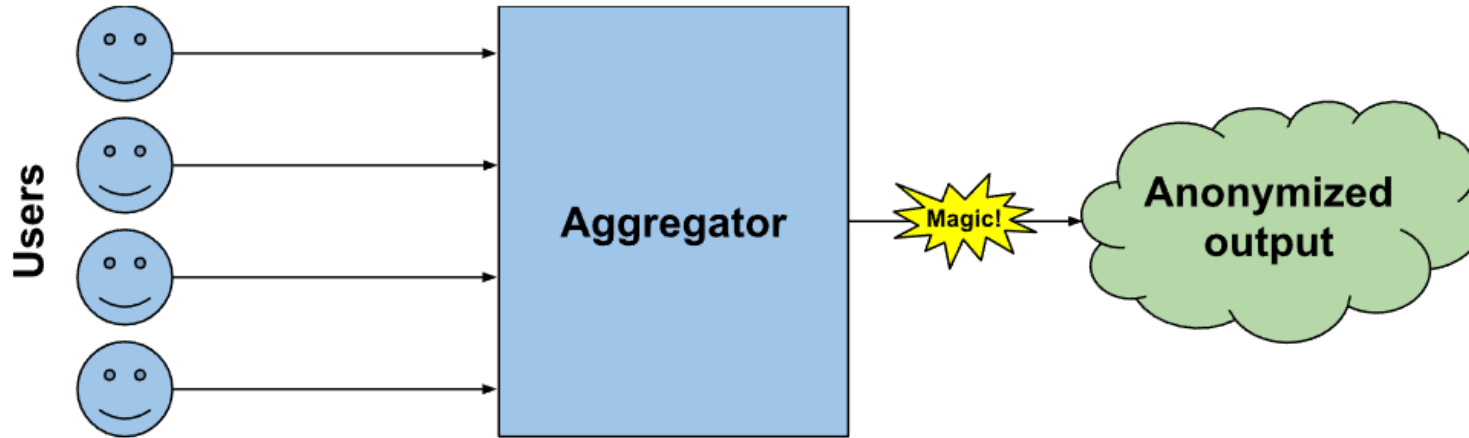
website: <https://www.sigmobile.org/mobicom/2022/>



What is Differential Privacy



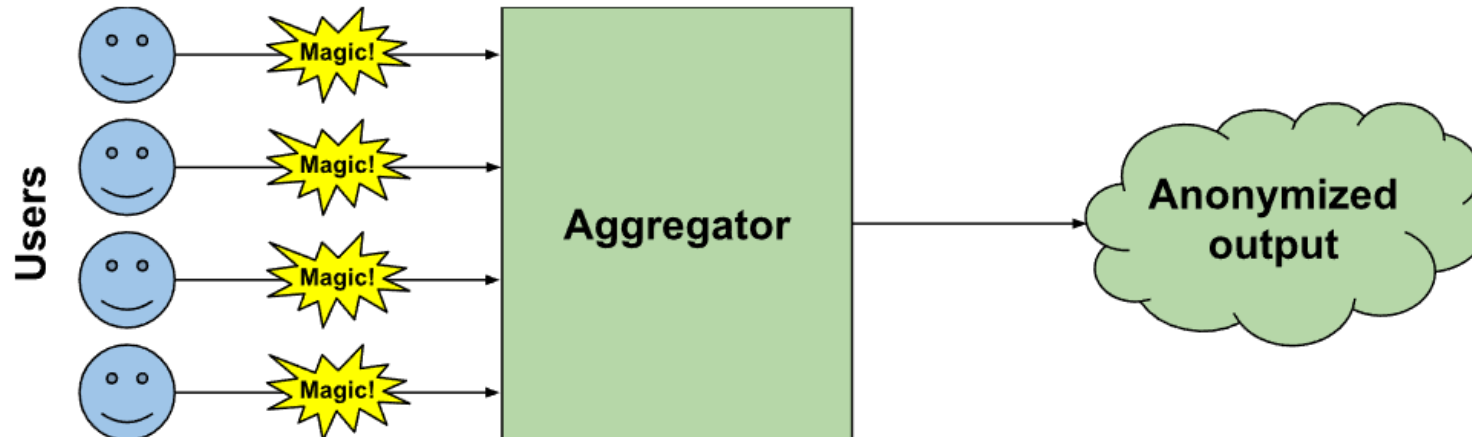
Central Differential Privacy



Pros & Cons:

- Accuracy
- Trust

Local Differential Privacy

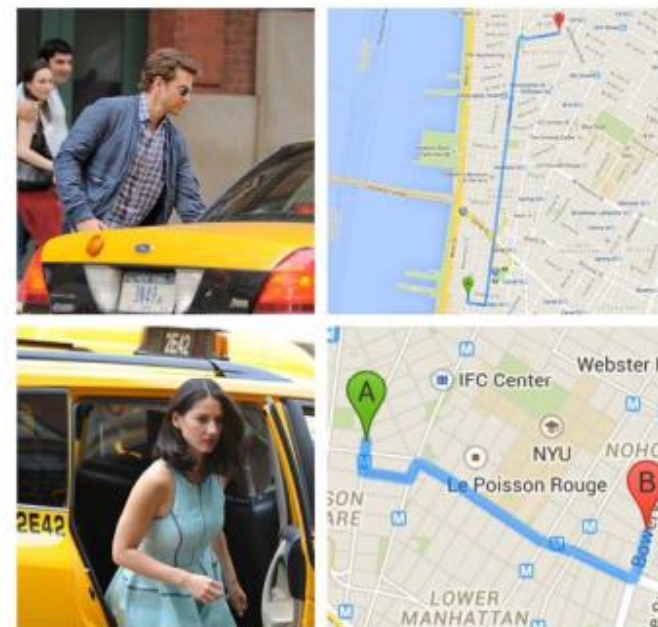


Why is Differential Privacy

New York City Taxi Dataset



Celebrity Photos from gossip websites



↔
↔
Re-
identification
by cross-
referencing

Figure 4: Re-Identifying Celebrity Taxi Ride Information

Image sources: medium.com, gawker.com

<https://azure.microsoft.com/mediahandler/files/resourcefiles/microsoft-smartnoisedifferential-privacy-machine-learning-case-studies/SmartNoise%20Whitepaper%20Final%203.8.21.pdf>



Use Cases

Emojis

Popular emojis

New words

Popular words unknown to QuickType dictionary

Deeplinks (iOS)

Popular deeplinks within apps marked as "eligible for public indexing"

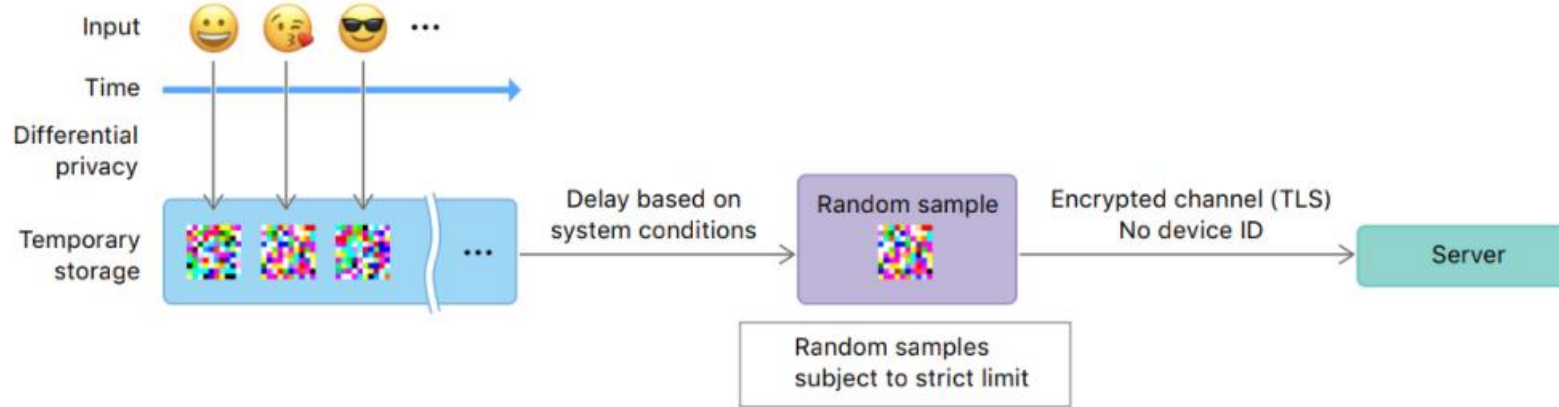
Lookup Hints in Notes

Popularly highlighted hints



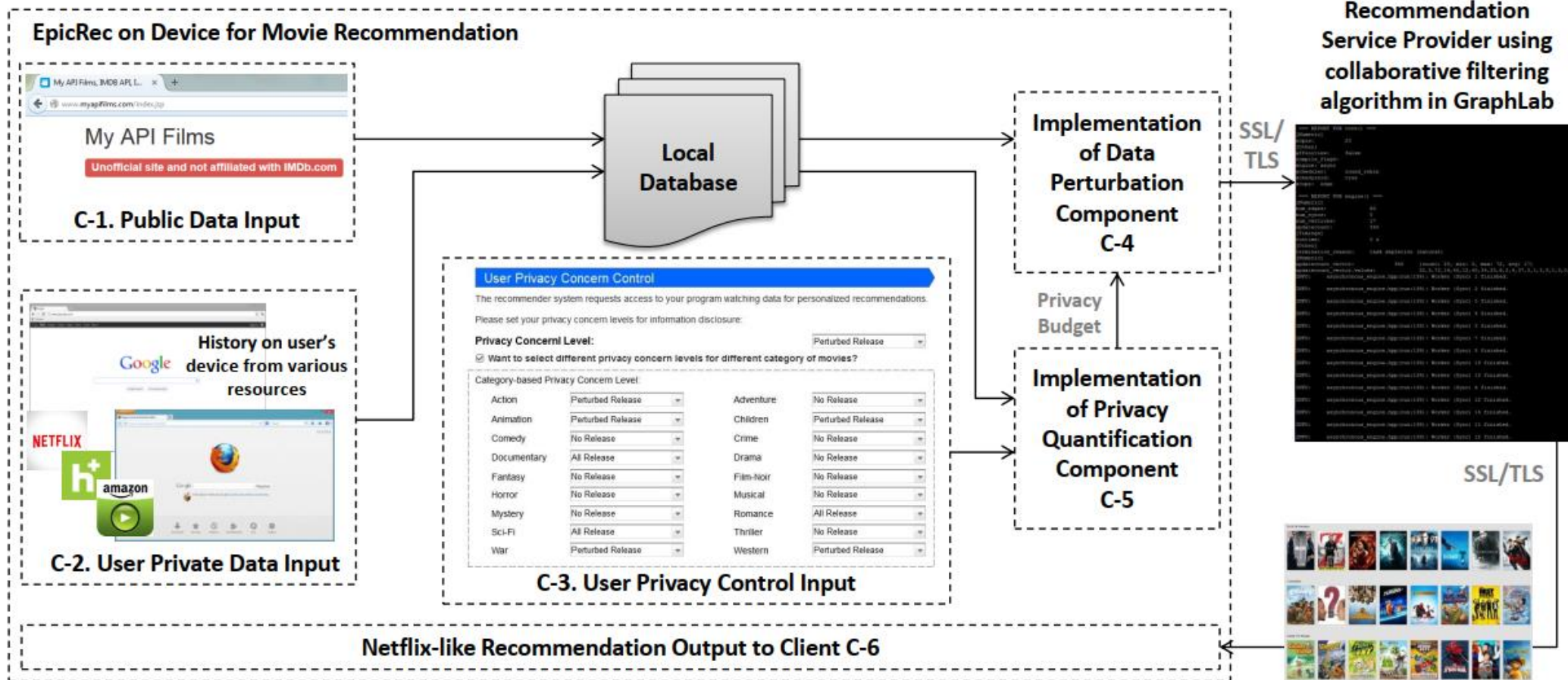


Collect data from end-user devices



- QuickType suggestions, using $\epsilon = 16$
- Emoji suggestions, using $\epsilon = 8$
- Lookup hints, using $\epsilon = 8$
- Health type Usage, using $\epsilon = 2$
- Safari Autoplay Intent Detection, using $\epsilon = 16$

[Differential Privacy Overview \(apple.com\)](https://apple.com/differential-privacy)

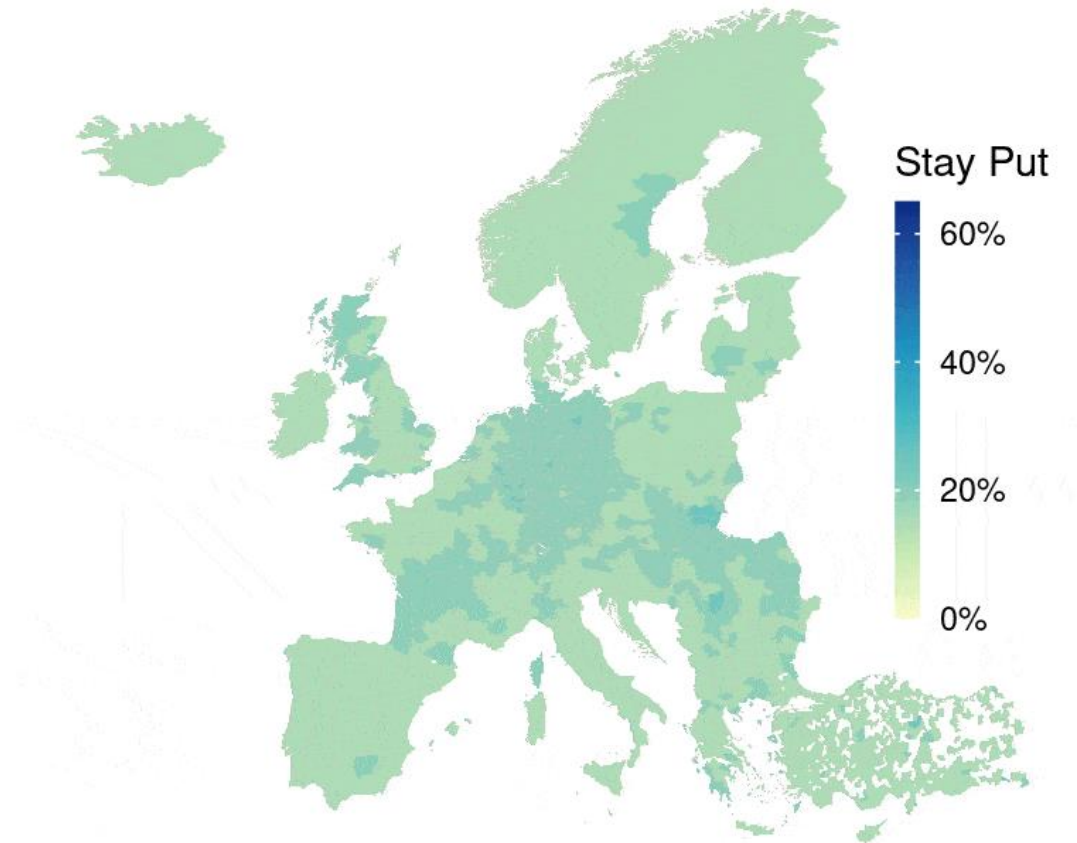




Facebook Movement Range Maps

Date: 2020-03-04

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Staying Put Percentage

- how much their users move during each day
- how many people are generally staying at home.
- Each metric uses a daily value $\epsilon=1$, so the overall privacy budget is $\epsilon=2$ with user-day as a privacy unit

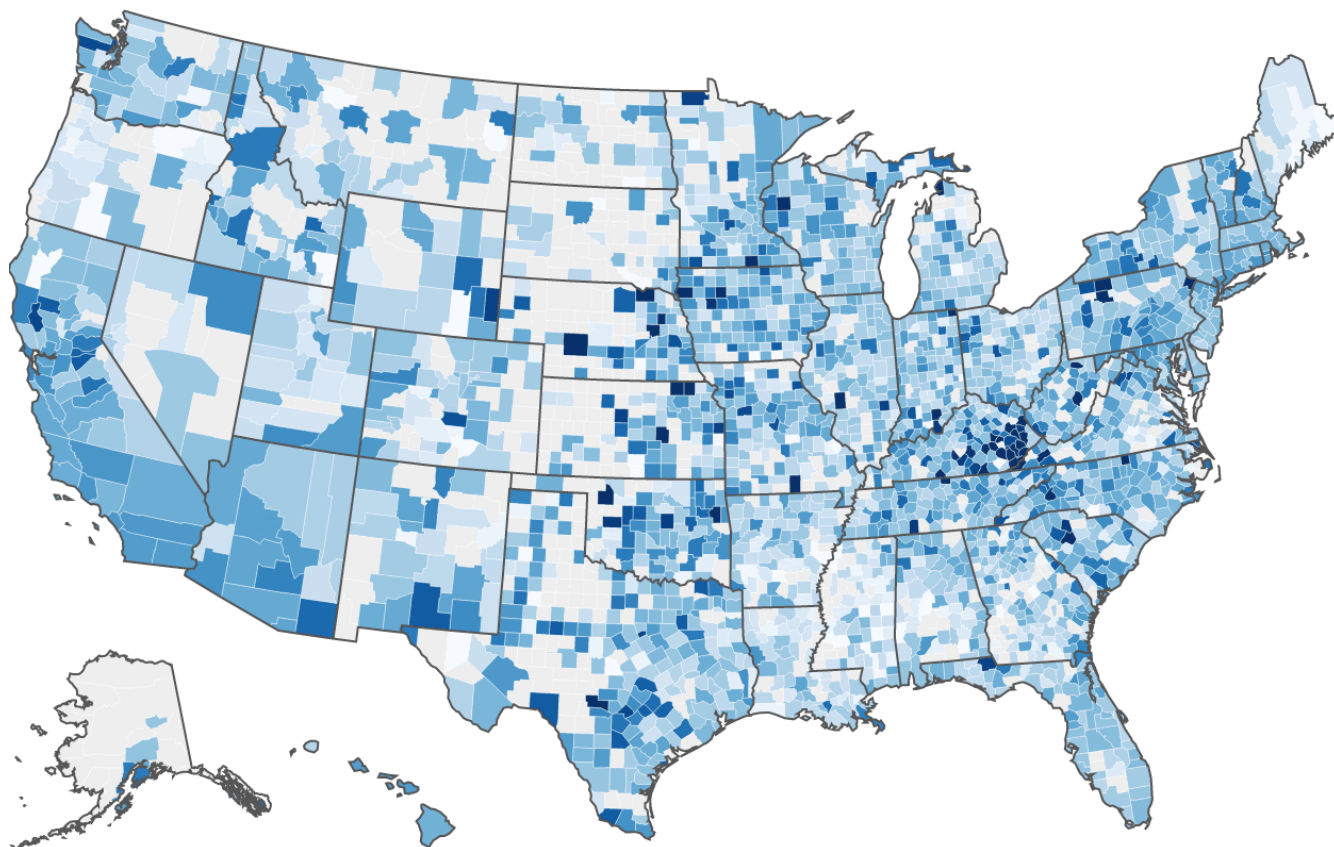
[Protecting privacy in Facebook mobility data during the COVID-19 response - Facebook Research \(fb.com\)](https://www.facebook.com/research)



Google Search Trends Symptoms Dataset

Searches for Fever

2020-01-13

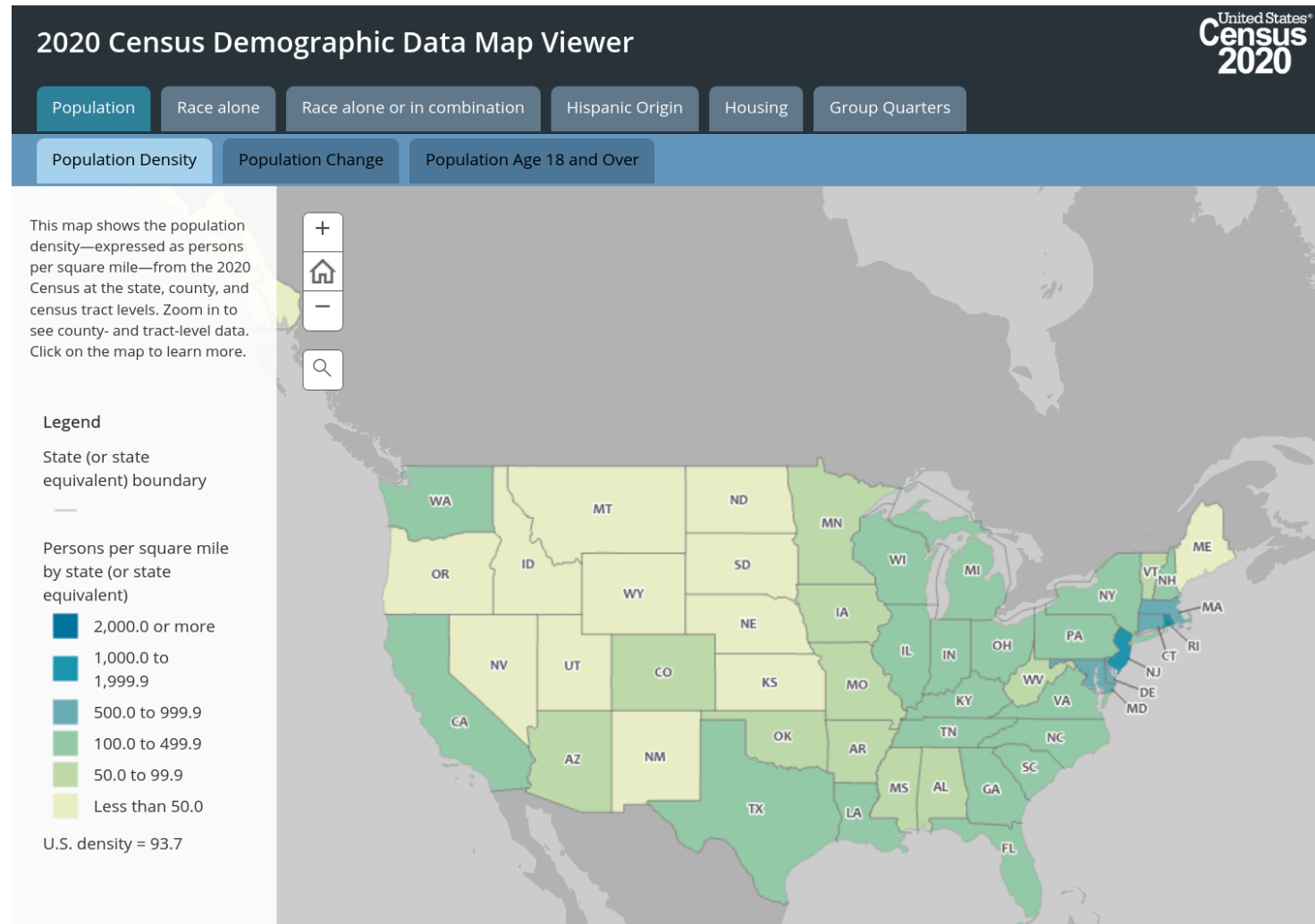


- measures the volume of Google searches related to a variety of symptoms

[\[2009.01265\] Google COVID-19 Search Trends Symptoms Dataset: Anonymization Process Description \(version 1.0\) \(arxiv.org\)](#)



United States Census Bureau



https://github.com/uscensusbureau/DAS_2020_Redistricting_Production_Code