conmat, continued

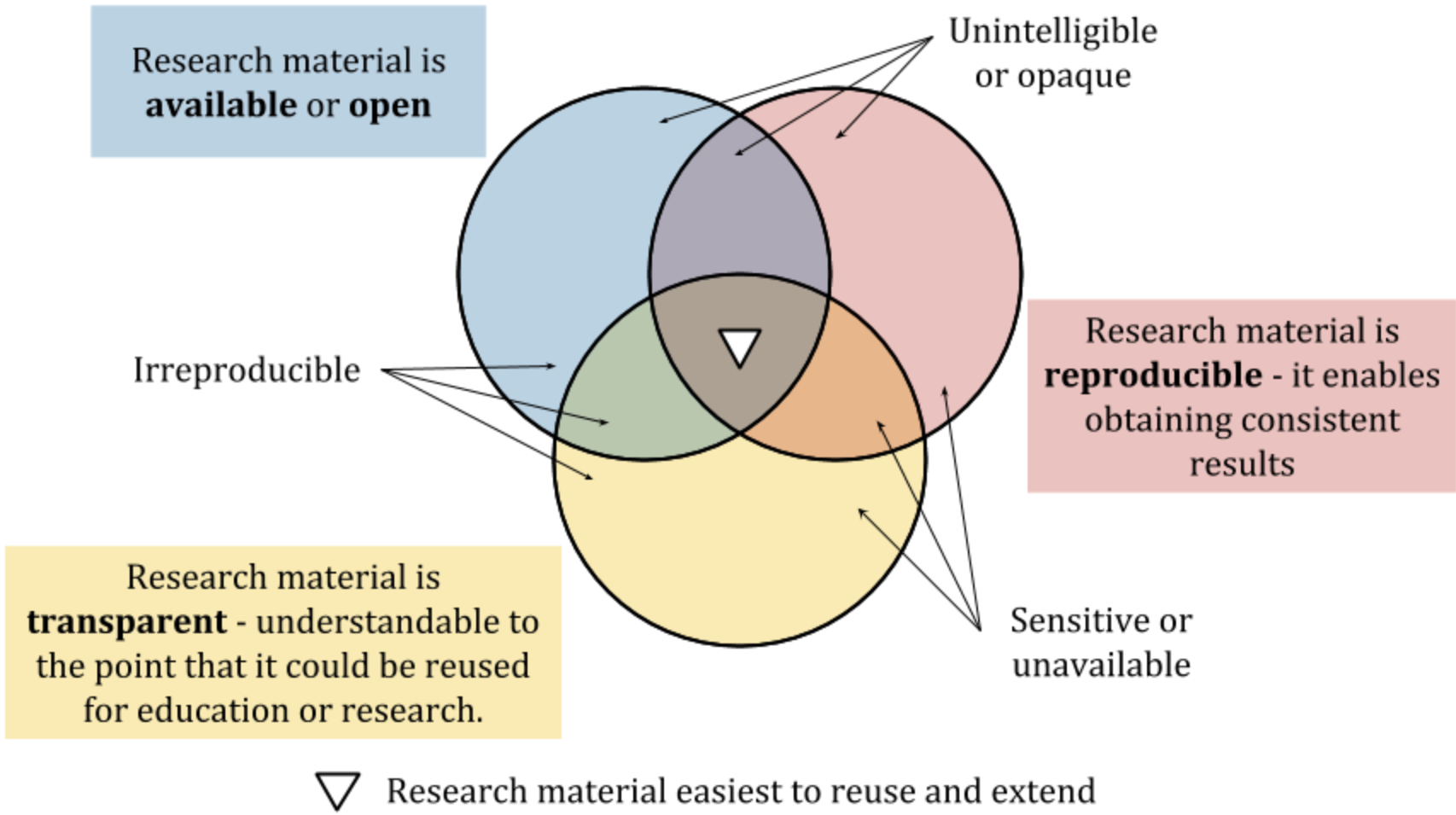
syncomat: a **conmat** use-case

principles of open research · better software

Motivation: open research

syncomat

github.com/idem-lab/syncomat

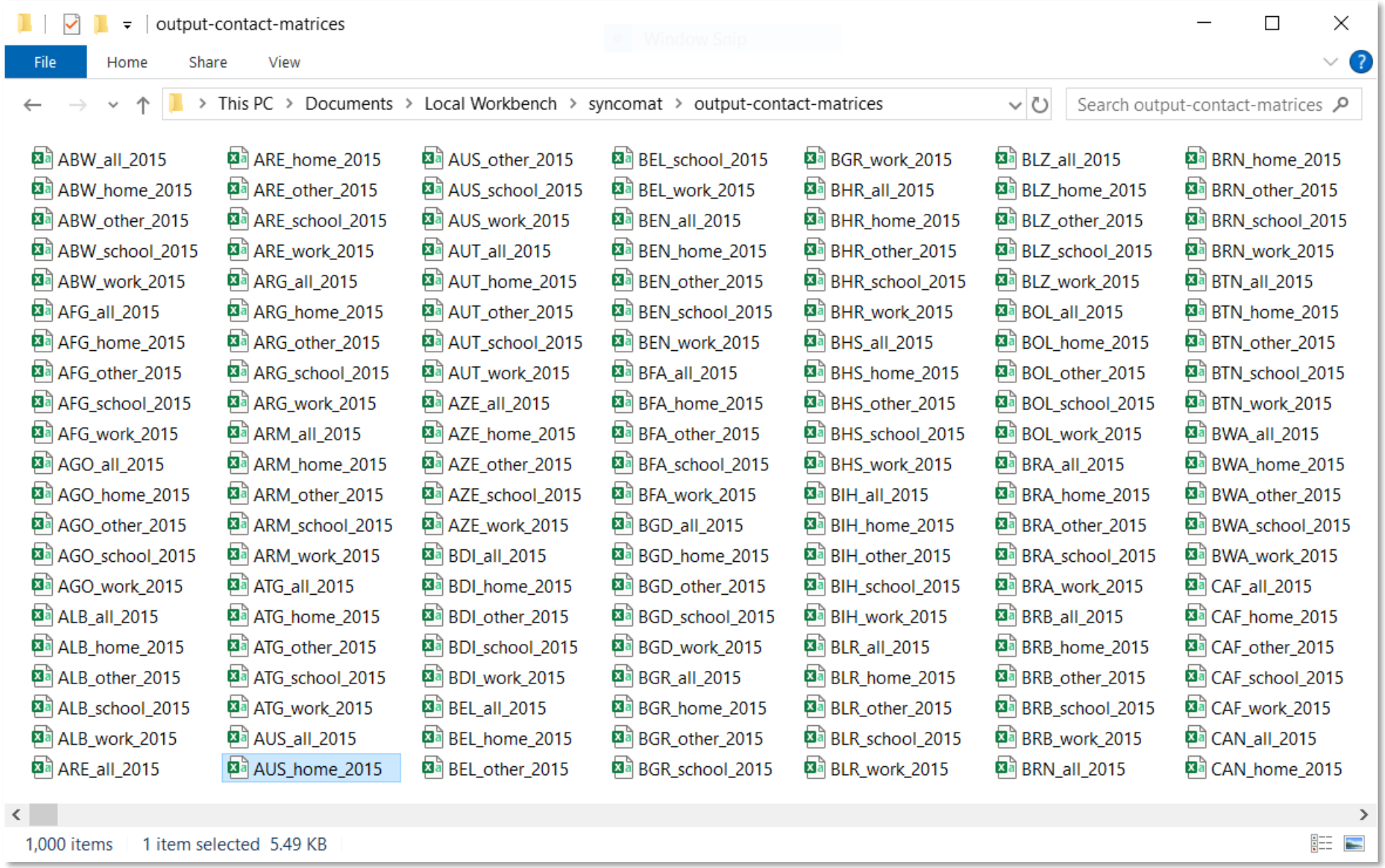


Goeva, Stoudt, & Trisovic (2020)

Prem et al., 2021

https://github.com/kieshaprem/synthetic-contact-matrices

demo: World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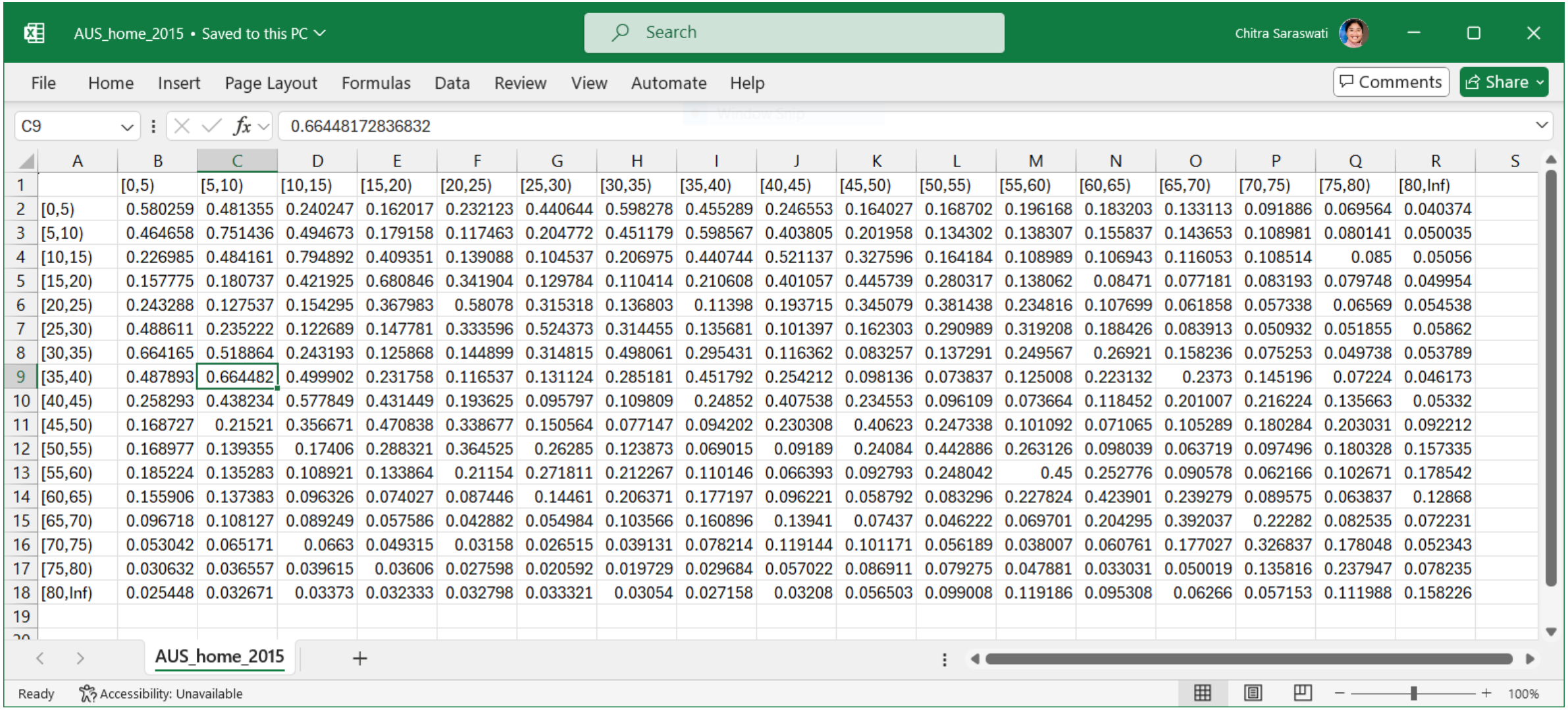
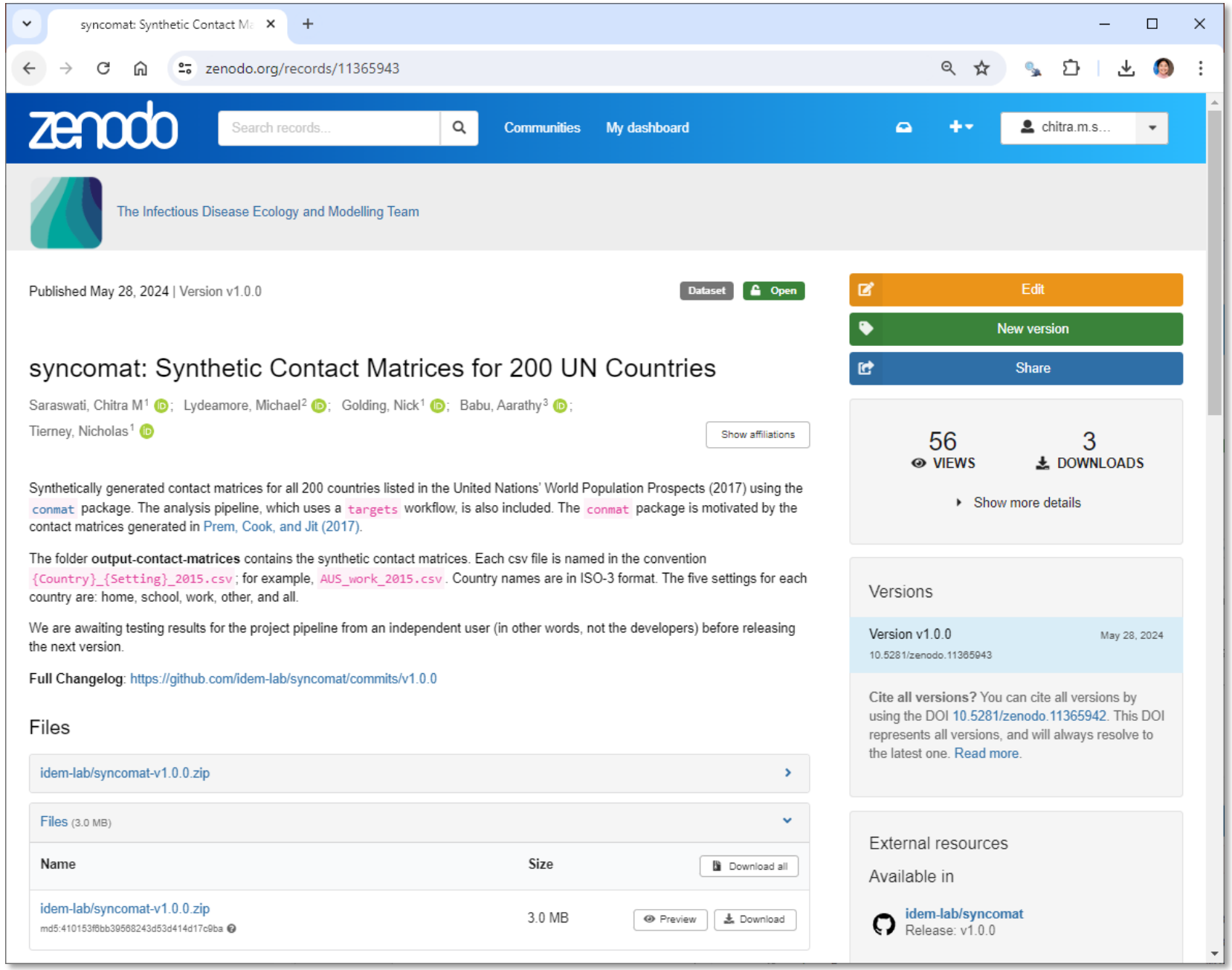


	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1		[0,5)	[5,10)	[10,15)	[15,20)	[20,25)	[25,30)	[30,35)	[35,40)	[40,45)	[45,50)	[50,55)	[55,60)	[60,65)	[65,70)	[70,75)	[75,80)	[80,Inf)	
2	[0,5)	0.580259	0.481355	0.240247	0.162017	0.232123	0.440644	0.598278	0.455289	0.246553	0.164027	0.168702	0.196168	0.183203	0.133113	0.091886	0.069564	0.040374	
3	[5,10)	0.464658	0.751436	0.494673	0.179158	0.117463	0.204772	0.451179	0.598567	0.403805	0.201958	0.134302	0.138307	0.155837	0.143653	0.108981	0.080141	0.050035	
4	[10,15)	0.226985	0.484161	0.794892	0.409351	0.139088	0.104537	0.206975	0.440744	0.521137	0.327596	0.164184	0.108989	0.106943	0.116053	0.108514	0.085	0.05056	
5	[15,20)	0.157775	0.180737	0.421925	0.680846	0.341904	0.129784	0.110414	0.210608	0.401057	0.445739	0.280317	0.138062	0.08471	0.077181	0.083193	0.079748	0.049954	
6	[20,25)	0.243288	0.127537	0.154295	0.367983	0.58078	0.315318	0.136803	0.11398	0.193715	0.345079	0.381438	0.234816	0.107699	0.061858	0.057338	0.06569	0.054538	
7	[25,30)	0.488611	0.235222	0.122689	0.147781	0.333596	0.524373	0.314455	0.135681	0.101397	0.162303	0.290989	0.319208	0.188426	0.083913	0.050932	0.051855	0.05862	
8	[30,35)	0.664165	0.518864	0.243193	0.125868	0.144899	0.314815	0.498061	0.295431	0.116362	0.083257	0.137291	0.249567	0.26921	0.158236	0.075253	0.049738	0.053789	
9	[35,40)	0.487893	0.664482	0.499902	0.231758	0.116537	0.131124	0.285181	0.451792	0.254212	0.098136	0.073837	0.125008	0.223132	0.2373	0.145196	0.07224	0.046173	
10	[40,45)	0.258293	0.438234	0.577849	0.431449	0.193625	0.095797	0.109809	0.24852	0.407538	0.234553	0.096109	0.073664	0.118452	0.201007	0.216224	0.135663	0.05332	
11	[45,50)	0.168727	0.21521	0.356671	0.470838	0.338677	0.150564	0.077147	0.094202	0.230308	0.40623	0.247338	0.101092	0.071065	0.105289	0.180284	0.203031	0.092212	
12	[50,55)	0.168977	0.139355	0.17406	0.288321	0.364525	0.26285	0.123873	0.069015	0.09189	0.24084	0.442886	0.263126	0.098039	0.063719	0.097496	0.180328	0.157335	
13	[55,60)	0.185224	0.135283	0.108921	0.133864	0.21154	0.271811	0.212267	0.110146	0.066393	0.092793	0.248042	0.45	0.252776	0.090578	0.062166	0.102671	0.178542	
14	[60,65)	0.155906	0.137383	0.096326	0.074027	0.087446	0.14461	0.206371	0.177197	0.096221	0.058792	0.083296	0.227824	0.423901	0.239279	0.089575	0.063837	0.12868	
15	[65,70)	0.096718	0.108127	0.089249	0.057586	0.042882	0.054984	0.103566	0.160896	0.13941	0.07437	0.046222	0.069701	0.204295	0.392037	0.22282	0.082535	0.072231	
16	[70,75)	0.053042	0.065171	0.0663	0.049315	0.03158	0.026515	0.039131	0.078214	0.119144	0.101171	0.056189	0.038007	0.060761	0.177027	0.326837	0.178048	0.052343	
17	[75,80)	0.030632	0.036557	0.039615	0.03606	0.027598	0.020592	0.019729	0.029684	0.057022	0.086911	0.079275	0.047881	0.033031	0.050019	0.135816	0.237947	0.078235	
18	[80,Inf)	0.025448	0.032671	0.03373	0.032333	0.032798	0.033321	0.03054	0.027158	0.03208	0.056503	0.099008	0.119186	0.095308	0.06266	0.057153	0.111988	0.158226	
19																			

demo: Perth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The Infectious Disease Ecology and Modelling Team
Published May 28, 2024 | Version v1.0.0
Dataset
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syncomat: Synthetic Contact Matrices for 200 UN Countries
Saraswati, Chitra M[1]; Lydeamore, Michael[2]; Golding, Nick[1]; Babu, Aarathy[3]; Tierney, Nicholas[1]
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Synthetically generated contact matrices for all 200 countries listed in the United Nations' World Population Prospects (2017) using the conmat package. The analysis pipeline, which uses a targets workflow, is also included. The conmat package is motivated by the contact matrices generated in Prem, Cook, and Jit (2017).
The folder output-contact-matrices contains the synthetic contact matrices. Each csv file is named in the convention {Country}_{Setting}_2015.csv; for example, AUS_work_2015.csv. Country names are in ISO-3 format. The five settings for each country are: home, school, work, other, and all.
We are awaiting testing results for the project pipeline from an independent user (in other words, not the developers) before releasing the next version.
Full Changelog: https://github.com/idem-lab/syncomat/commits/v1.0.0
Versions
Version v1.0.0
May 28, 2024
10.5281/zenodo.11365943
Cite all versions? You can cite all versions by using the DOI 10.5281/zenodo.11365942. This DOI represents all versions, and will always resolve to the latest one. Read more.
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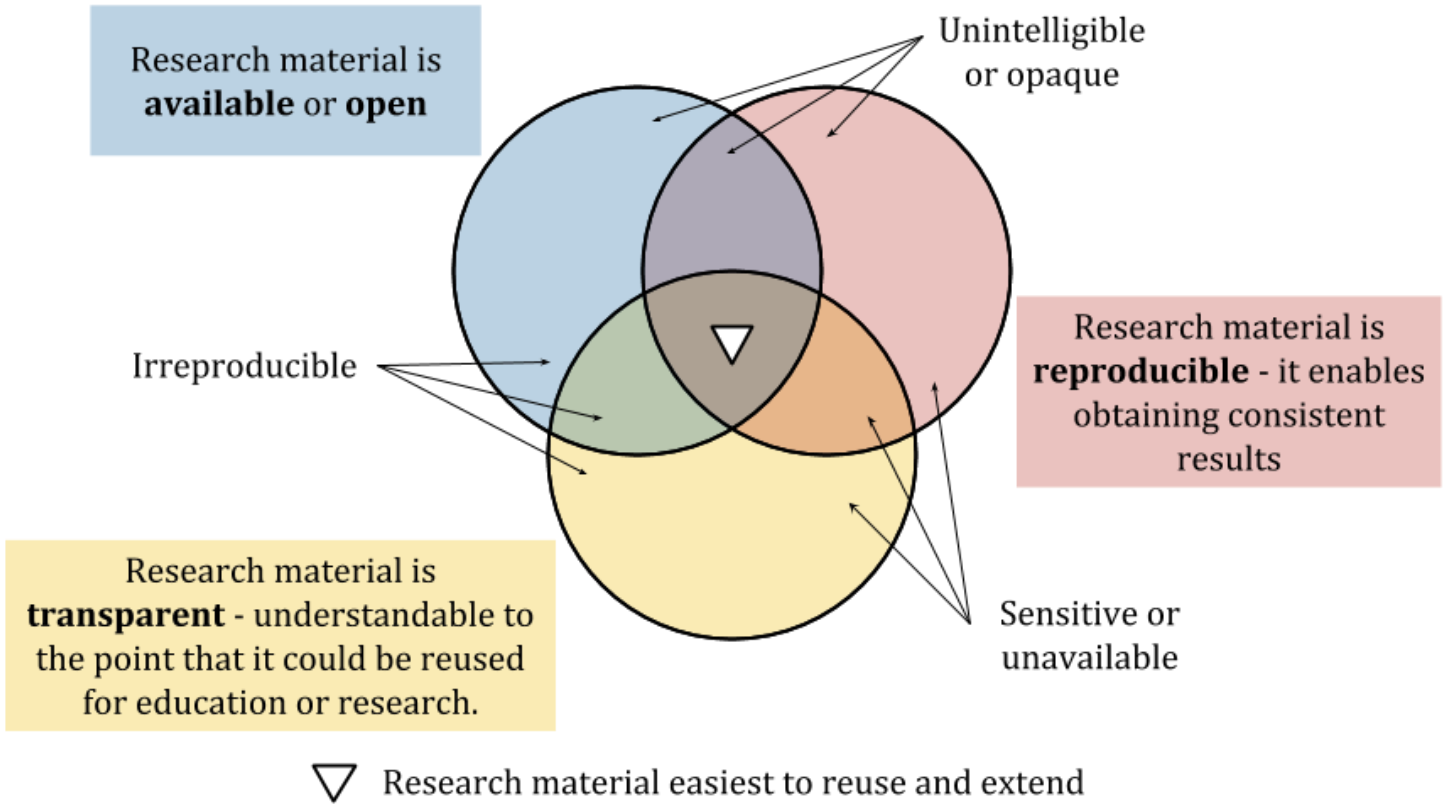
Release: v1.0.0

Thank you!



Goeva, Stoudt, & Trisovic (2020)

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- Prem, K., Zandvoort, K. V., Klepac, P., Eggo, R. M., Davies, N. G., Centre for the Mathematical Modelling of Infectious Diseases COVID-19 Working Group, … & Jit, M. (2021). Projecting contact matrices in 177 geographical regions: An update and comparison with empirical data for the COVID-19 era. *PLoS computational biology*, 17(7), e1009098.

Useful and relevant resources

- User manual for {targets} here.
- The Turing Way Handbook for "reproducible, ethical and collaborative data science," https://book.the-turing-way.org/index.html
- The article "Toward Reproducible and Extensible Research: From Values to Action" by Goeva, Stoudt, & Trisovic (2020)

- conmat: https://github.com/idem-lab/conmat; vignette
- syncomat: https://github.com/idem-lab/syncomat