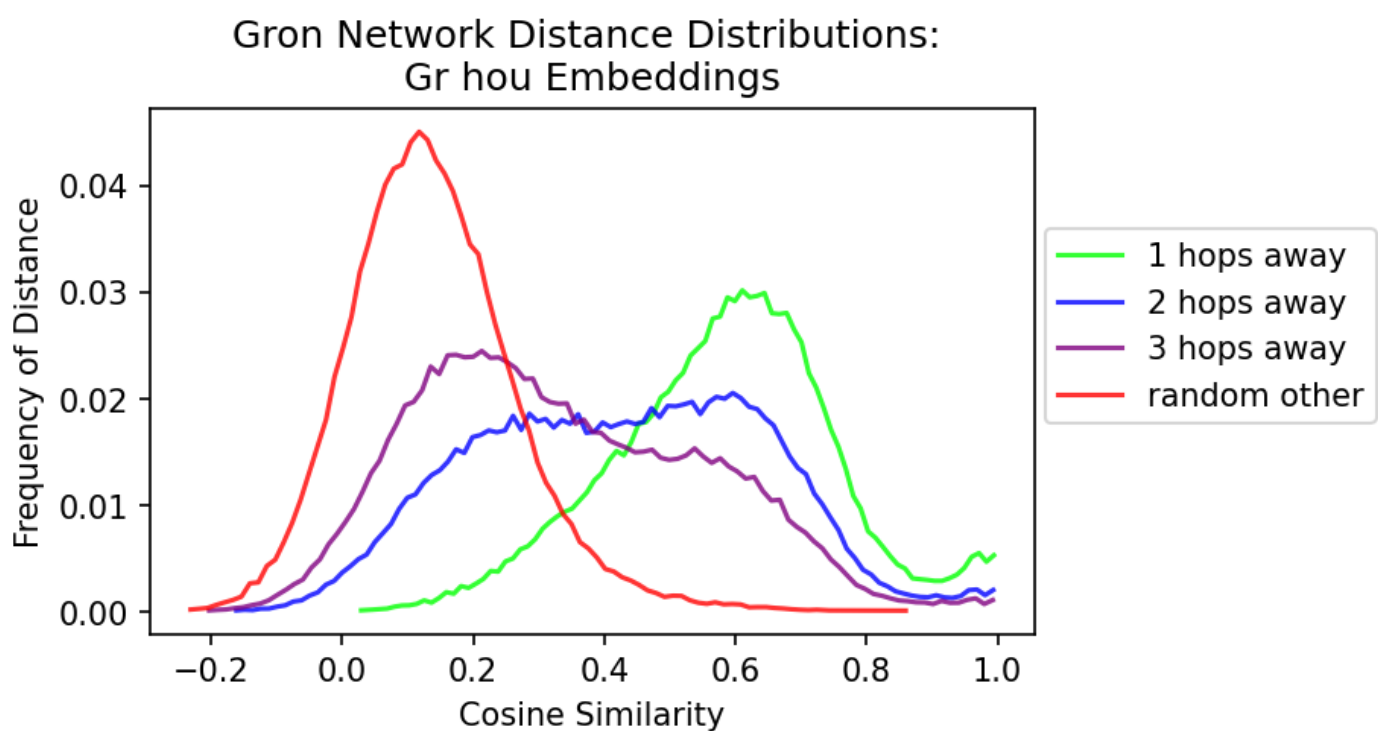
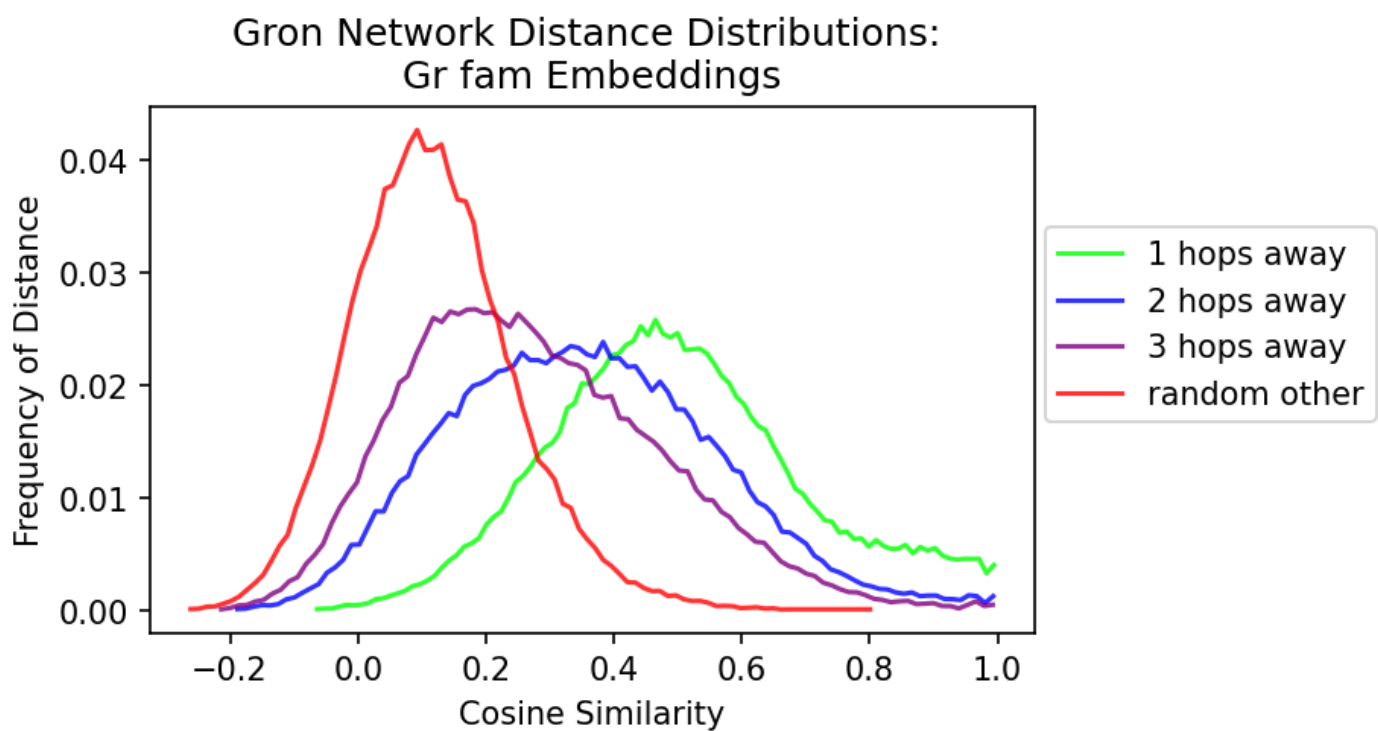


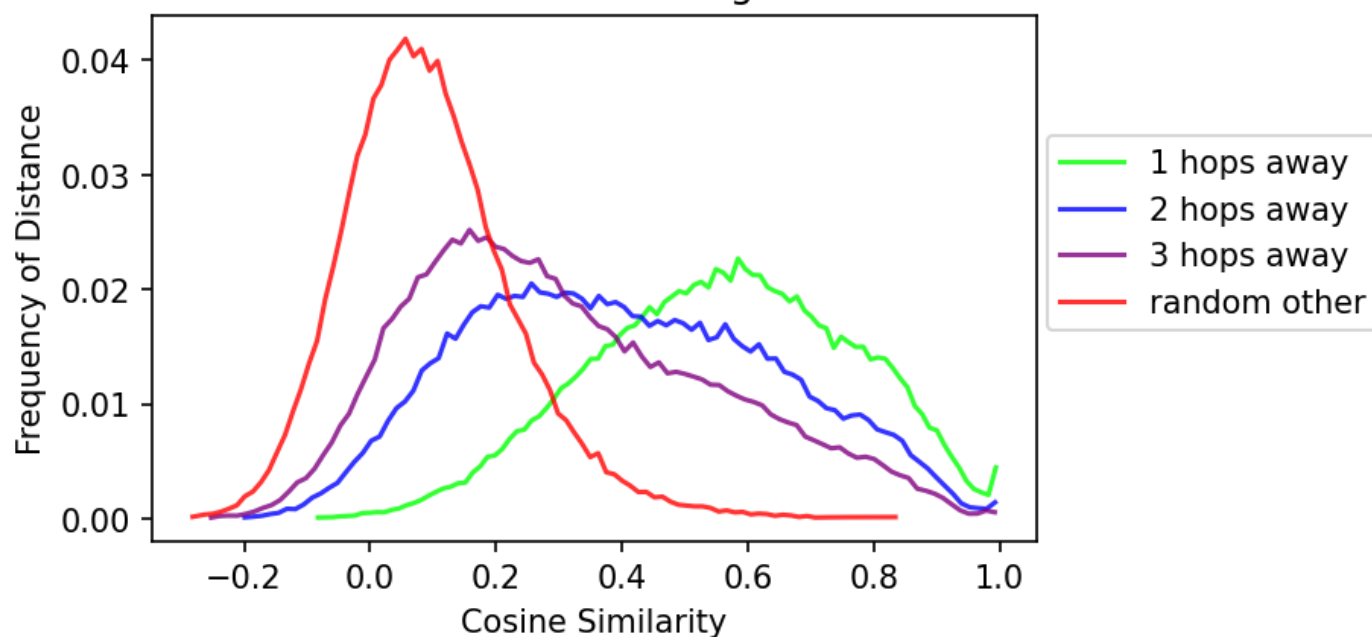
0. Embedding Descriptions/Comparisons

	<i>Gr fam</i>	<i>Gr hou</i>	<i>Gr cla</i>	<i>Gr nei</i>	<i>Gr col</i>
<i>type</i>	NET	NET	NET	NET	NET
<i>year</i>	2016	2016	2016	2016	2016
<i>n_samples</i>	212501	212501	212501	212501	212501
<i>dimensions</i>	64	64	64	64	64

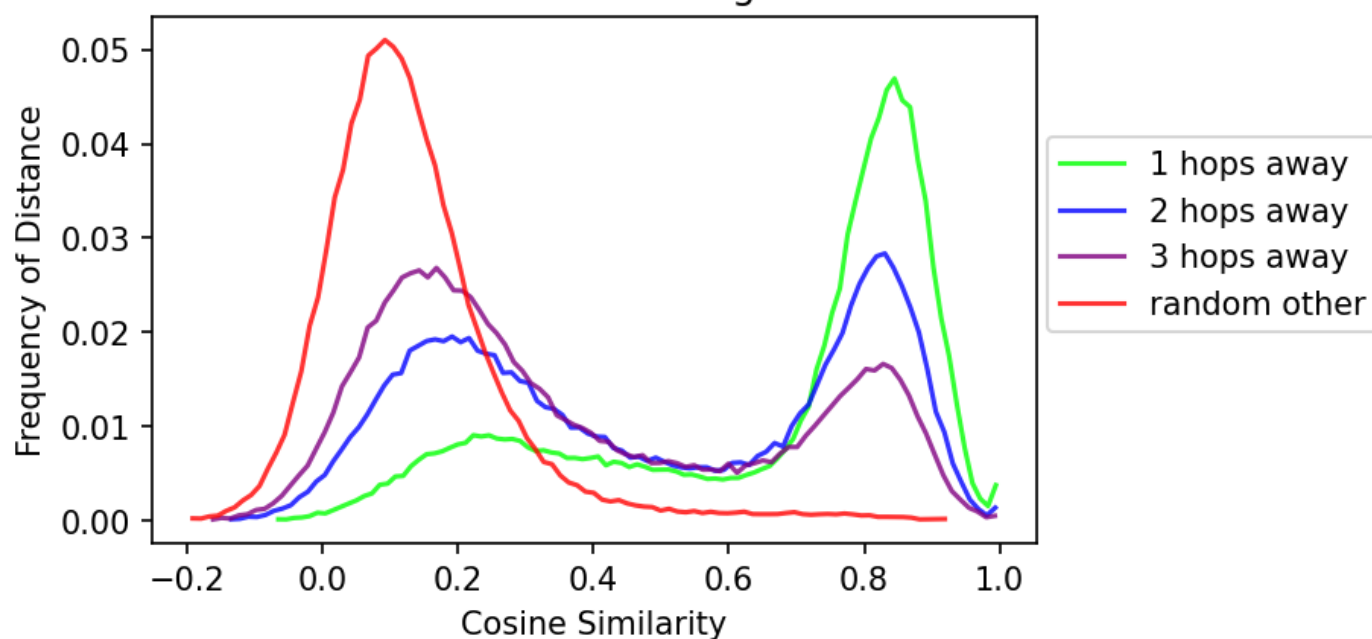
1. Distance Distributions by Hop



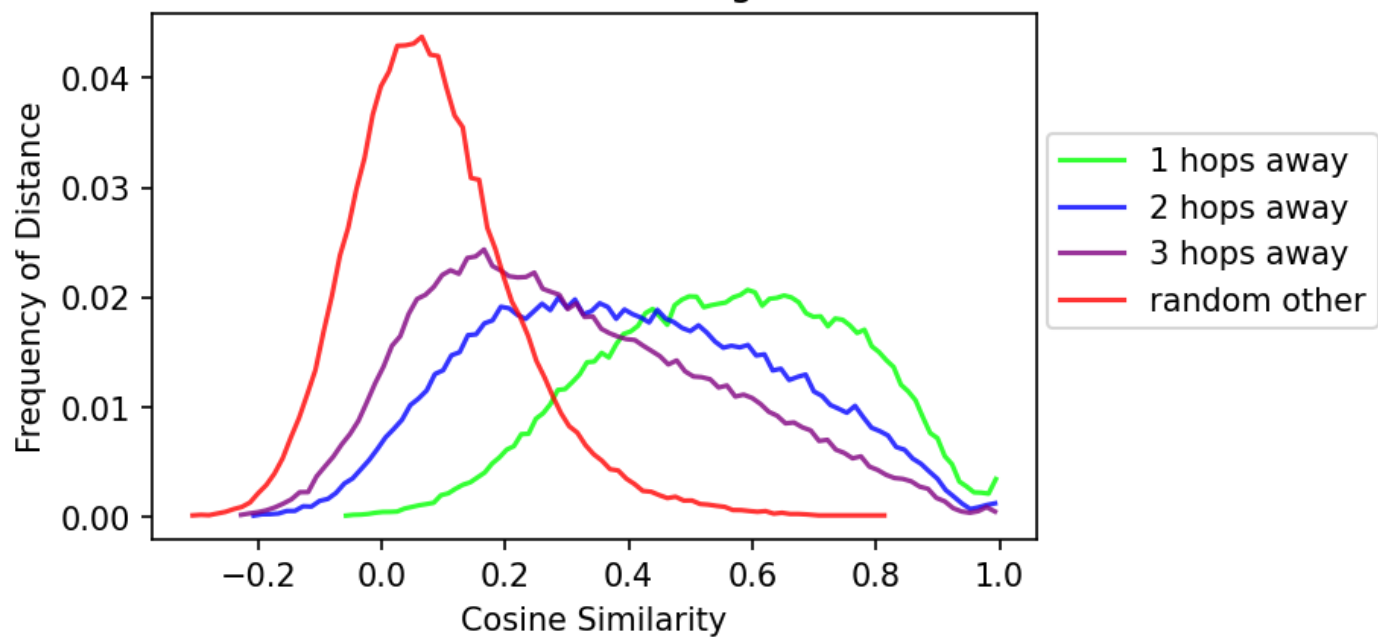
Gron Network Distance Distributions:
Gr cla Embeddings



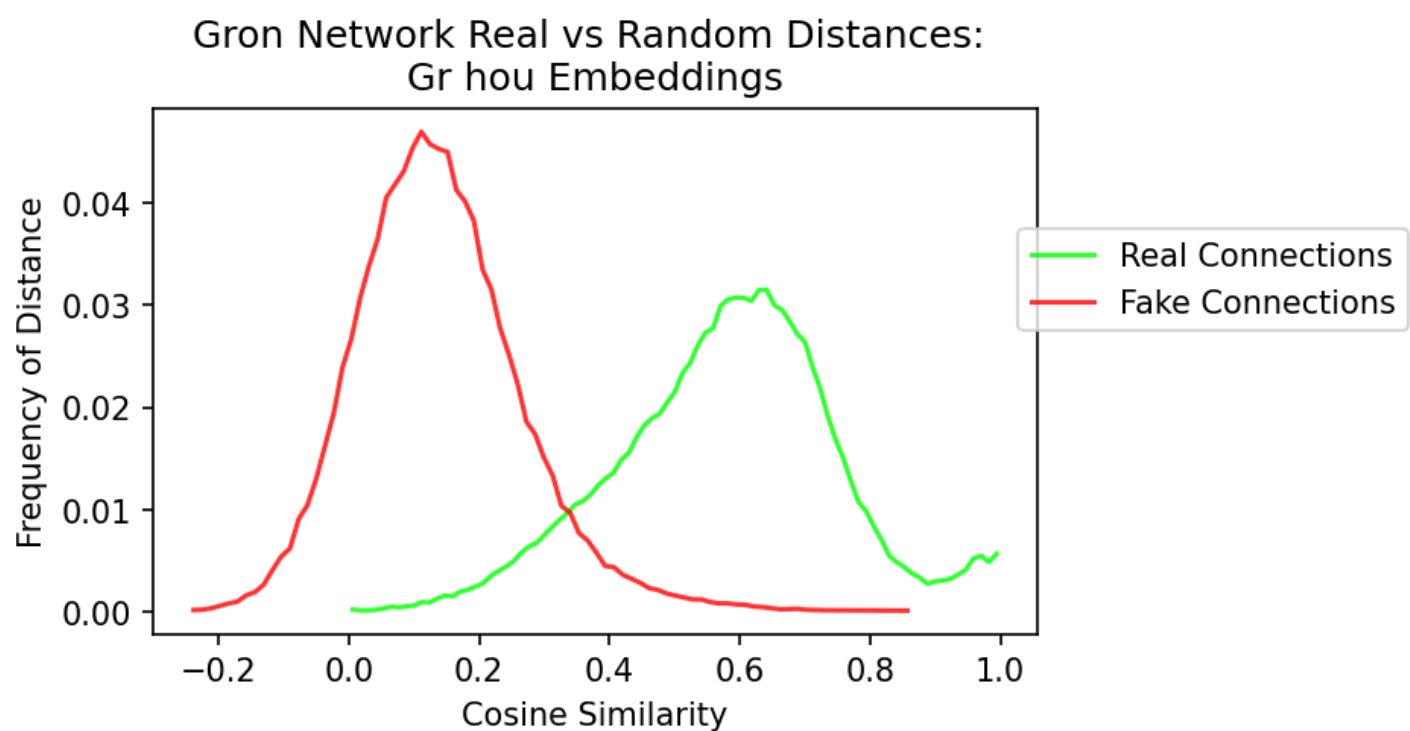
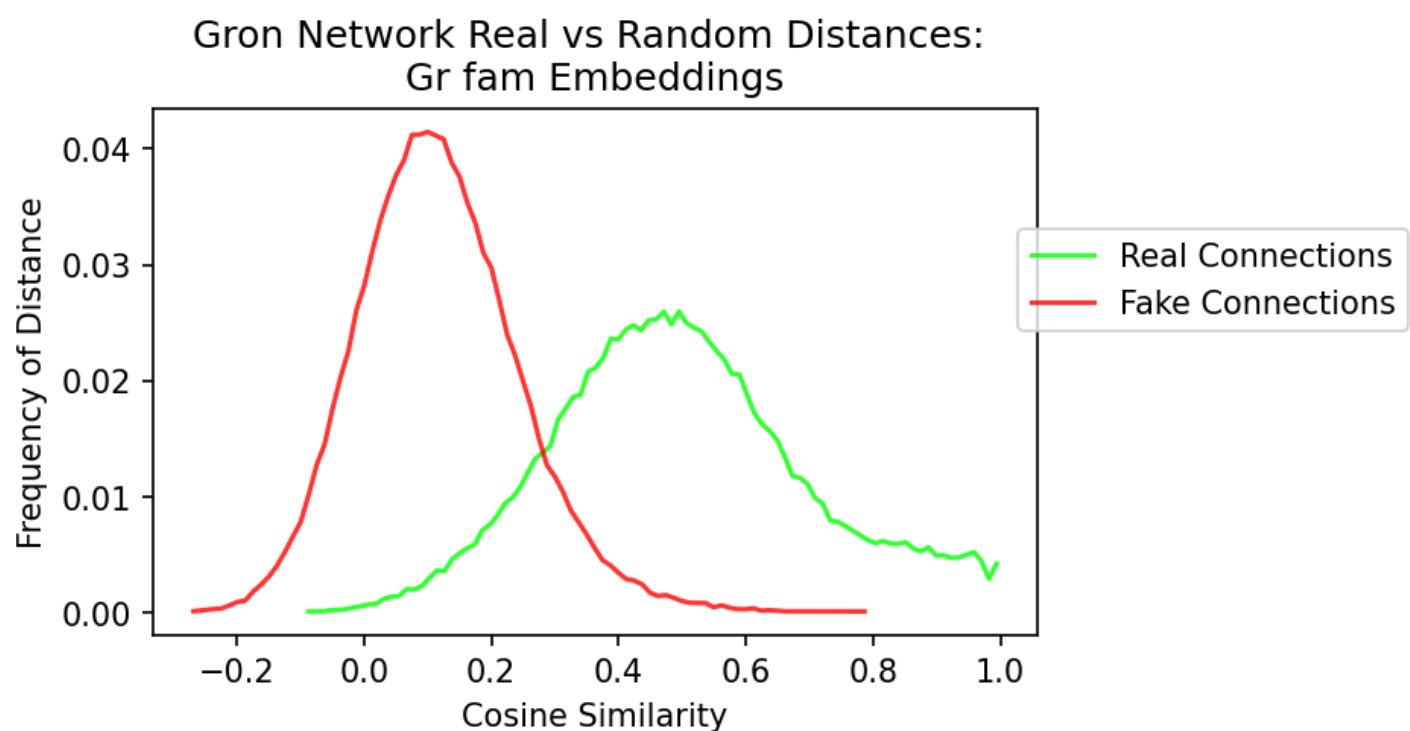
Gron Network Distance Distributions:
Gr nei Embeddings



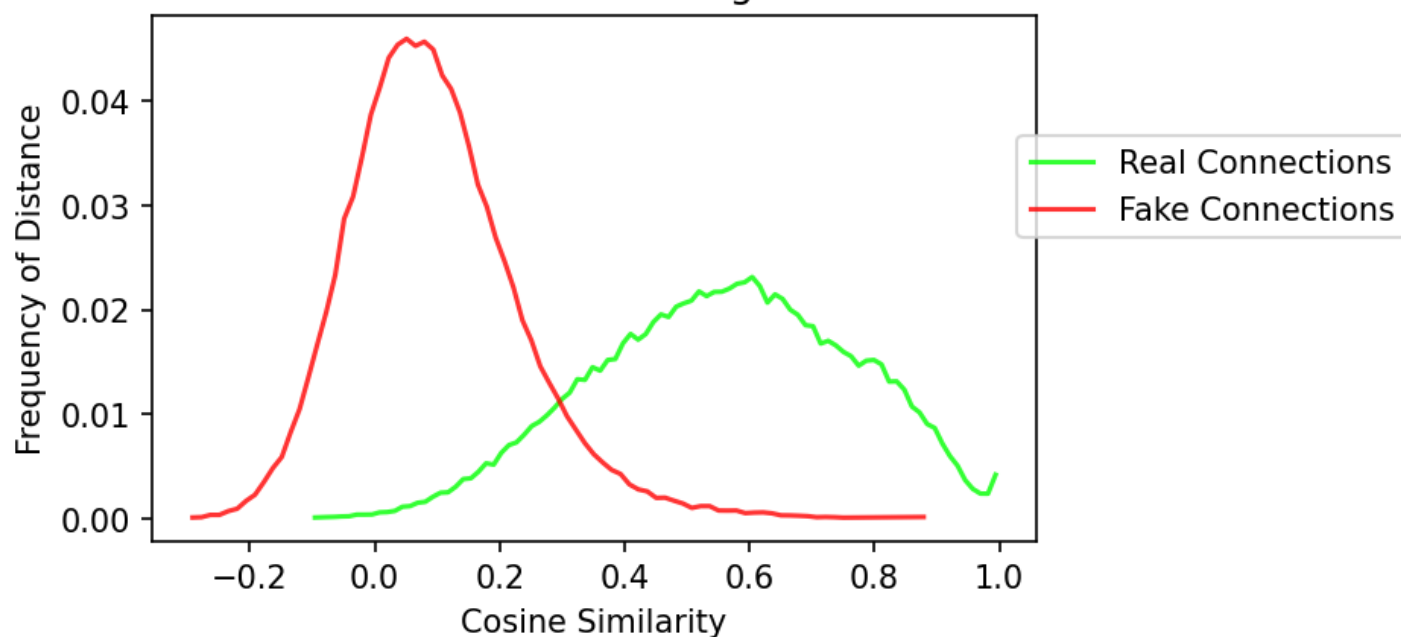
Gron Network Distance Distributions:
Gr col Embeddings



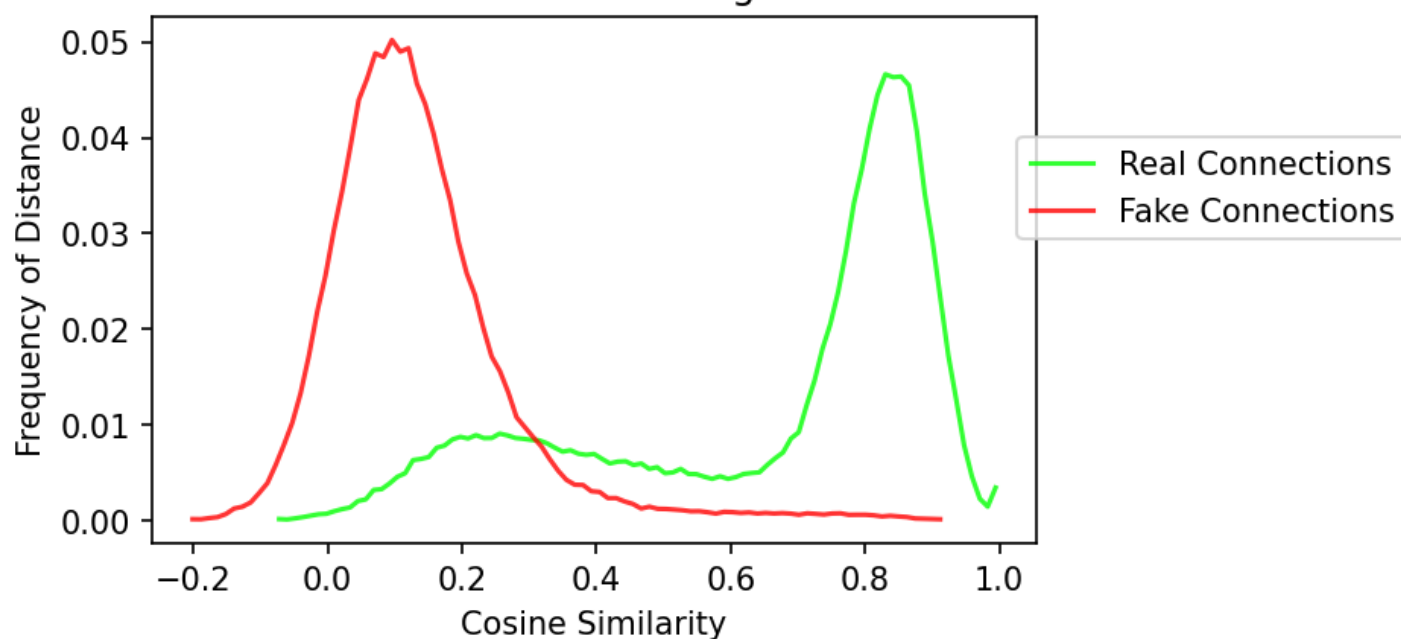
2. Distance Distributions: Real vs Fake Connections



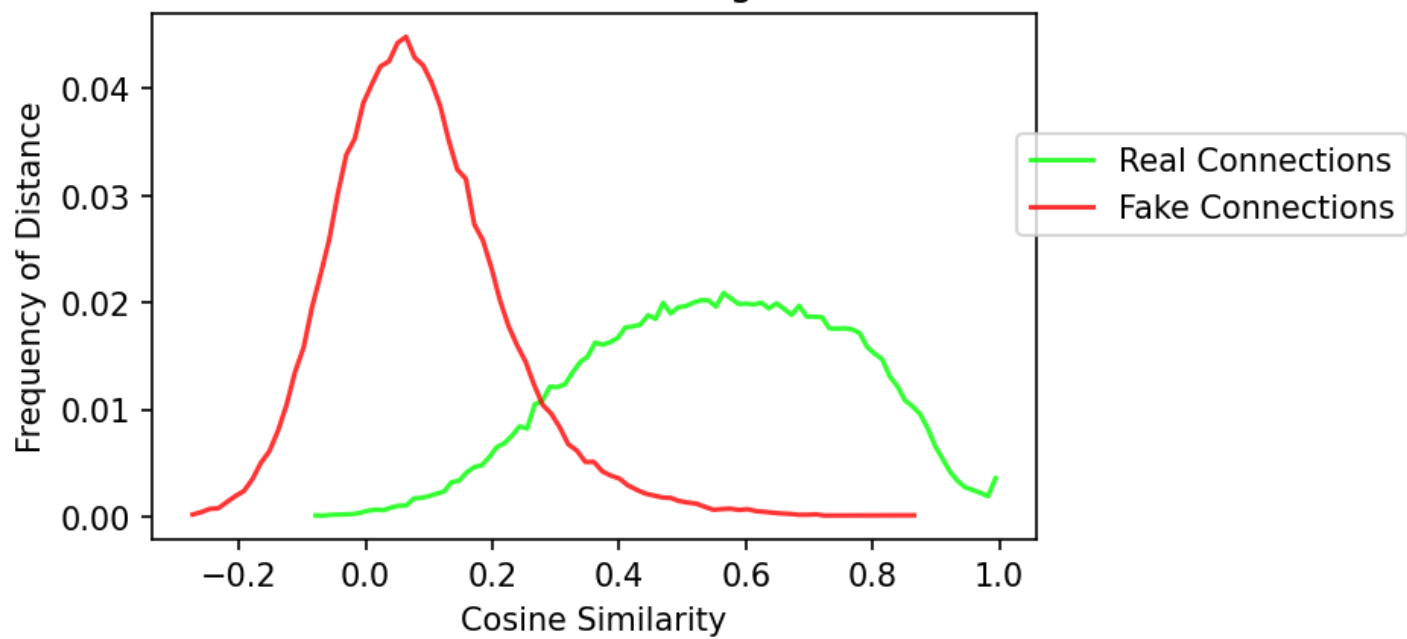
Gron Network Real vs Random Distances:
Gr cla Embeddings



Gron Network Real vs Random Distances:
Gr nei Embeddings



Gron Network Real vs Random Distances:
Gr col Embeddings



3. Prediction - Income at Age 30 (R^2)

	Baseline	Gr fam	Gr fam + Base	Gr hou	Gr hou + Base	Gr cla	Gr cla + Base	Gr nei	Gr nei + Base	Gr col	Gr col + Base
2011	-0.035	0.071	0.698	0.048	0.677	0.076	0.681	0.055	0.726	0.121	0.671
2012	-0.025	0.087	0.601	0.098	0.506	0.078	0.61	0.031	0.606	0.112	0.539
2013	-0.002	0.027	0.541	0.05	0.43	0.051	0.481	0.033	0.456	0.095	0.472
2014	-0.004	0.052	0.468	0.094	0.429	0.066	0.464	0.054	0.394	0.137	0.438
2015	-0.012	0.09	0.344	0.098	0.346	0.124	0.349	0.054	0.311	0.143	0.365
2016	-0.03	0.08	0.211	0.085	0.224	0.113	0.256	0.031	0.17	0.102	0.266
2017	-0.008	0.099	0.209	0.125	0.205	0.126	0.211	0.06	0.116	0.131	0.241
2018	-0.008	0.1	0.107	0.125	0.145	0.141	0.131	0.07	0.076	0.174	0.193
2019	-0.002	0.08	0.108	0.12	0.126	0.143	0.137	0.034	0.042	0.121	0.164
2020	-0.0	0.072	0.102	0.09	0.105	0.106	0.112	0.027	0.053	0.097	0.177
2021	-0.015	0.011	0.121	0.013	0.123	0.038	0.166	-0.042	0.061	0.0	0.157
OVERALL	0.127	0.04	0.217	0.057	0.226	0.06	0.231	0.005	0.186	0.072	0.249

Test Counts

	Gr fam	Gr fam + Base	Gr hou	Gr hou + Base	Gr cla	Gr cla + Base	Gr nei	Gr nei + Base	Gr col	Gr col + Base
2011	499	460	499	460	499	460	499	460	499	460
2012	528	480	528	480	528	480	528	480	528	480
2013	563	502	563	502	563	502	563	502	563	502
2014	626	547	626	547	626	547	626	547	626	547
2015	690	587	690	587	690	587	690	587	690	587
2016	779	645	779	645	779	645	779	645	779	645
2017	835	717	835	717	835	717	835	717	835	717
2018	858	753	858	753	858	753	858	753	858	753
2019	935	830	935	830	935	830	935	830	935	830
2020	1081	984	1081	984	1081	984	1081	984	1081	984
2021	1173	1082	1173	1082	1173	1082	1173	1082	1173	1082
OVERALL	8567	7587	8567	7587	8567	7587	8567	7587	8567	7587

5. Prediction - Marriage (Mean Accuracy)

5.1 Binary Prediction (Real vs. Fake Pairs)

	Baseline	Gr fam	Gr fam + Base	Gr hou	Gr hou + Base	Gr cla	Gr cla + Base	Gr nei	Gr nei + Base	Gr col	Gr col + Base
2011	0.0	0.988	0.0	0.98	0.0	0.987	0.0	0.976	0.0	0.98	0.0
2012	0.001	0.988	0.014	0.991	-0.014	0.988	-0.051	0.984	0.038	0.99	-0.057
2013	-0.012	0.972	-0.075	0.975	-0.029	0.974	-0.099	0.969	0.099	0.979	-0.039
2014	0.0	0.99	0.0	0.981	0.0	0.991	0.0	0.984	0.0	0.987	0.0
2015	-0.003	0.981	0.063	0.975	-0.01	0.978	-0.137	0.981	0.0	0.974	-0.04
2016	-0.003	0.994	-0.03	0.996	-0.054	0.996	-0.046	0.99	-0.119	0.994	0.013
2017	-0.001	0.977	0.05	0.986	-0.026	0.988	-0.03	0.985	-0.014	0.985	-0.07
2018	-0.007	0.976	-0.136	0.981	-0.103	0.981	-0.008	0.973	-0.013	0.983	-0.014
2019	-0.011	0.989	-0.222	0.986	-0.231	0.98	-0.22	0.991	-0.104	0.992	-0.09
2020	-0.004	0.968	0.0	0.966	-0.131	0.977	-0.026	0.979	-0.01	0.977	-0.021
2021	-0.004	0.972	-0.069	0.978	0.0	0.982	-0.045	0.99	-0.118	0.98	-0.07
OVERALL	-0.017	0.983	-0.209	0.983	-0.282	0.983	-0.201	0.983	-0.17	0.983	-0.127

Test Counts

	Gr fam	Gr fam + Base	Gr hou	Gr hou + Base	Gr cla	Gr cla + Base	Gr nei	Gr nei + Base	Gr col	Gr col + Base
2011	119	20	119	20	119	20	119	20	119	20
2012	137	37	137	37	137	37	137	37	137	37
2013	122	36	122	36	122	36	122	36	122	36
2014	134	44	134	44	134	44	134	44	134	44
2015	136	56	136	56	136	56	136	56	136	56
2016	136	54	136	54	136	54	136	54	136	54
2017	133	55	133	55	133	55	133	55	133	55
2018	139	62	139	62	139	62	139	62	139	62
2019	130	59	130	59	130	59	130	59	130	59
2020	95	35	95	35	95	35	95	35	95	35
2021	100	34	100	34	100	34	100	34	100	34
OVERALL	1647	554	1647	554	1647	554	1647	554	1647	554

5.2 Actual Partner Rank vs. Random Pairings

	<i>Gr fam</i>	<i>Gr hou</i>	<i>Gr cla</i>	<i>Gr nei</i>	<i>Gr col</i>
2011	2.75	2.533	2.599	2.188	2.595
2012	2.587	2.176	2.35	2.448	2.717
2013	2.127	1.949	2.221	2.331	2.822
2014	2.29	2.549	2.6	2.164	2.428
2015	2.287	1.961	2.393	2.478	1.819
2016	5.027	4.984	4.912	5.233	4.366
2017	5.345	5.98	5.603	7.014	6.387
2018	6.518	7.205	6.687	8.42	7.304
2019	10.901	10.239	9.615	10.998	9.385
2020	14.855	14.476	13.963	14.263	14.136
2021	18.194	16.917	16.072	18.072	15.628
OVERALL	6.878	6.719	6.52	7.276	6.659

Test Counts

	<i>Gr fam</i>	<i>Gr hou</i>	<i>Gr cla</i>	<i>Gr nei</i>	<i>Gr col</i>
2011	1194	1194	1194	1194	1194
2012	1362	1362	1362	1362	1362
2013	1216	1216	1216	1216	1216
2014	1328	1328	1328	1328	1328
2015	1334	1334	1334	1334	1334
2016	1346	1346	1346	1346	1346
2017	1306	1306	1306	1306	1306
2018	1358	1358	1358	1358	1358
2019	1274	1274	1274	1274	1274
2020	926	926	926	926	926
2021	992	992	992	992	992
OVERALL	16266	16266	16266	16266	16266