

	Artist	Athletes	Company	Government	New Sites	Politician	Public Figure	TV show
Jaccard	0.8448	0.8413	0.6954	0.9419	0.8454	<u>0.9219</u>	0.7957	0.8791
Similarity	0.8448	0.8412	0.7001	0.9418	0.8454	0.9206	0.7969	0.8815
Shortest Path Length	0	0	0	0	0	0	0	0
Same Community	0.7905	0.8095	0.7460	0.8727	0.7442	0.9221	0.8025	0.9006
Common Neighbors	0.8448	0.8415	0.7001	0.9419	0.8454	<u>0.9219</u>	<u>0.7970</u>	<u>0.8816</u>
Adamic Adar	<u>0.8447</u>	<u>0.8413</u>	0.6971	<u>0.9437</u>	<u>0.8445</u>	0.9216	0.7962	0.8800
Resource Allocation	0.8448	0.8415	0.7001	0.9442	0.8454	<u>0.9219</u>	<u>0.7970</u>	0.8814
Preferential Attachment	0.8094	0.7482	0.7005	0.7681	0.7472	0.7551	0.7680	0.7113
SVD	0.1706	0.5828	0.4921	0.7307	0.3538	0.6845	0.6993	0.6028
Node2Vec (PCA)	0.5805	0.4911	0.5660	0.6854	0.6425	0.6459	0.4819	0.5693
GEMSEC (PCA)	0.5899	0.7313	<u>0.7109</u>	0.7152	0.6699	0.6931	0.6987	0.6749
Smooth GEMSEC (PCA)	0.5791	0.7104	0.6946	0.7270	0.6813	0.6398	0.7208	0.6924
DeepWalk (PCA)	0.5885	0.7154	0.6896	0.7362	0.6679	0.6331	0.6695	0.7376
Smooth DeepWalk (PCA)	0.5960	0.7090	0.6790	0.6512	0.6561	0.7051	0.7008	0.6788

Question 1. GBDT

	Artist	Athletes	Company	Government	New Sites	Politician	Public Figure	TV show
Jaccard	0.8448	0.8415	0.7001	0.9419	0.8454	<u>0.9219</u>	<u>0.7970</u>	<u>0.8816</u>
Similarity	0.8448	0.8415	0.7001	0.9419	0.8454	<u>0.9219</u>	<u>0.7970</u>	<u>0.8816</u>
Shortest Path Length	0	0	0	0	0	0	0	0
Same Community	0.7905	0.8095	0.7460	0.8727	0.7442	0.9221	0.8025	0.9006
Common Neighbors	0.8448	0.8415	0.7001	0.9419	0.8454	<u>0.9219</u>	<u>0.7970</u>	<u>0.8816</u>
Adamic Adar	<u>0.8447</u>	<u>0.8413</u>	0.6971	<u>0.9441</u>	<u>0.8445</u>	0.9216	0.7962	0.8802
Resource Allocation	0.8448	0.8415	0.7001	0.9442	0.8454	<u>0.9219</u>	<u>0.7970</u>	<u>0.8816</u>
Preferential Attachment	0.8085	0.7478	0.7013	0.7686	0.7467	0.7574	0.7680	0.7170
SVD	0.2409	0.6281	0.5307	0.7368	0.4266	0.6864	0.7176	0.6034
Node2Vec (PCA)	0.5809	0.4744	0.5673	0.6858	0.6427	0.6488	0.4868	0.5749
GEMSEC (PCA)	0.5912	0.7300	<u>0.7147</u>	0.7169	0.6736	0.7000	0.7010	0.6877
Smooth GEMSEC (PCA)	0.5799	0.7127	0.6948	0.7311	0.6833	0.6465	0.7218	0.7002
DeepWalk (PCA)	0.5909	0.7171	0.6976	0.7389	0.6695	0.6386	0.6767	0.7251
Smooth DeepWalk (PCA)	0.5966	0.7090	0.6851	0.6604	0.6565	0.7114	0.7018	0.6756

Question 1. Random Forest

	Artist	Athletes	Company	Government	New Sites	Politician	Public Figure	TV show
GEMSEC	0.7925	0.7964	0.8170	<u>0.9183</u>	0.7765	0.9305	0.8340	0.9283
Smooth GEMSEC	0.8075	0.8115	<u>0.8205</u>	0.9060	0.7818	<u>0.9310</u>	<u>0.8513</u>	0.9280
DeepWalk	0.8228	0.8003	0.8171	0.9069	0.7788	0.9214	0.8331	<u>0.9282</u>
Smooth DeepWalk	0.8181	0.8006	0.8205	0.8910	0.7584	0.9282	0.8311	0.9218
Node2Vec	<u>0.8520</u>	<u>0.8137</u>	0.7635	0.8909	<u>0.8195</u>	0.9093	0.8158	0.8777
All Methods w/o HDE	0.0004	0.0005	0.0072	0.0003	0.0029	0.0009	0.0020	0.0046
All Methods w/o HDE, SP	0.9008	0.8963	0.8405	0.9463	0.8989	0.9424	0.8764	0.9213

Question 2. Random Forest

	Artist	Athletes	Company	Government	New Sites	Politician	Public Figure	TV show
GEMSEC	0.8532	0.8784	0.8767	<u>0.9431</u>	0.8567	0.9599	<u>0.8995</u>	0.9575
Smooth GEMSEC	0.8562	0.8859	0.8782	0.9394	0.8484	0.9604	0.9012	0.9625
DeepWalk	0.8576	0.8825	<u>0.8811</u>	0.9399	0.8573	<u>0.9604</u>	0.8934	0.9573
Smooth DeepWalk	0.8634	0.8780	0.8868	0.9372	0.8430	0.9620	0.8931	<u>0.9618</u>
Node2Vec	0.9016	<u>0.8884</u>	0.8293	0.9225	<u>0.8870</u>	0.9368	0.8649	0.9149
All Methods w/o HDE	0.0004	0.0005	0.0072	0.0003	0.0029	0.0009	0.0020	0.0046
All Methods w/o HDE, SP	<u>0.9013</u>	0.8963	0.8368	0.9447	0.8983	0.9415	0.8757	0.9162

Question 2. GDBT

	Artist	Athletes	Company	Government	New Sites	Politician	Public Figure	TV show
1 st	Similarity	Similarity	Similarity	Resource Allocation	Similarity	Same Community	Same Community	Same Community
2 nd	Resource Allocation	Same Community	Same Community	Adamic Adar	Resource Allocation	Resource Allocation	Similarity	Resource Allocation
3 rd	Jaccard	Resource Allocation	Resource Allocation	Similarity	Same Community	Similarity	Resource Allocation	Cosine Distance
The Last	GEMSEC (PCA)	Node2Vec (PCA)	Smooth DeepWalk (PCA)	Preferential Attachment	Smooth DeepWalk (PCA)	Node2Vec (PCA)	DeepWalk (PCA)	Smooth GEMSEC (PCA)

Question 3. Random Forest

	Artist	Athletes	Company	Government	New Sites	Politician	Public Figure	TV show
1 st	Similarity	Similarity	Same Community	Resource Allocation	Similarity	Same Community	Same Community	Same Community
2 nd	Same Community	Same Community	SVD	Same Community	Same Community	Resource Allocation	SVD	SVD
3 rd	Preferential Attachment	SVD	Preferential Attachment	Smooth GEMSEC (PCA)	Preferential Attachment	Adamic Adar	Node2Vec (PCA)	Resource Allocation
The Last	Common Neighbors	Common Neighbors	Common Neighbors	Common Neighbors	Common Neighbors	Common Neighbors	Common Neighbors	Common Neighbors

Question 3. GBDT