

List of Figures

1.1	Major entities and their relationships in BSD	4
1.2	Illustration of thesis structure	23
2.1	The graphical description of LDA	38
2.2	The standard RNN and unfolded	40
2.3	Single LSTM Cell	41
2.4	Example of CNN with two convolutional layers, two pooling layers, and a fully connected layer	42
3.1	Overview of DISCOVER	53
3.2	Organizational architecture of DISCOVER	54
3.3	Hybrid binary tree to hierarchy of field of studies	56
3.4	Graph model for centrality measures	59
3.5	The structure of citation analysis	63
3.6	Graph model for candidate score computation	64
3.7	Seven-level citation network	65
3.8	Identification of papers with higher than average C-scores	66
3.9	Selection of candidate papers	68
3.10	Assignment of link-weights using SPC technique	69
3.11	Key-route identification using main path analysis	71
3.12	Sub-domain wise precision@k calculation (CS)	81
3.13	Sub-domain wise precision@k calculation (CS)	83
3.14	Sub-domain wise precision@k calculation (BIO)	84
3.15	Sub-domain wise precision@k calculation (CS)	84
3.16	Sub-domain wise precision@k calculation (CS)	85

3.17	Sub-domain wise precision@k calculation (BIO)	86
3.18	Sub-domain wise nDCG@k calculation (CS)	88
3.19	Sub-domain wise nDCG@k calculation (CS)	88
3.20	Sub-domain wise nDCG@k calculation (BIO)	89
3.21	Sub-domain wise nDCG@k calculation (CS)	89
3.22	Sub-domain wise nDCG@k calculation (CS)	90
3.23	Sub-domain wise nDCG@k calculation (BIO)	90
3.24	(a) Average venue quality (CS) (b) Average venue quality (BIO)	95
3.25	(a) Average venue quality of EJF and SJS(CS) (b) Average venue quality of EJF and SJS (BIO)	95
4.1	Graphical representation of SIN graph	103
4.2	The basic block diagram of CNAVER	105
4.3	Architecture of CNAVER	106
4.4	(a) precision@k of PPPN (b) nDCG@k of PPPN	134
4.5	(a) PPPN average venue quality (b) VVPN average venue quality	136
4.6	(a) precision@k of VVPN (b) nDCG@k of VVPN	137
4.7	(a) Precision of CNAVER (b) nDCG of CNAVER	140
4.8	Average venue quality of CNAVER and other approaches	143
5.1	Functional architecture of DeepRec	151
5.2	The architecture of proposed CNN model	154
5.3	The architecture of proposed LSTM model	158
5.4	Statistics of word count of abstracts	166
5.5	(a) Precision analysis for CNN (b) nDCG analysis for CNN	170
5.6	(a) Venue quality of CNN (b) Venue quality of LSTM	172
5.7	(a) Precision of LSTM (b) nDCG of LSTM	174
5.8	(a) Precision of DeepRec (b) nDCG of DeepRec	179
5.9	Venue quality of DeepRec and other approaches	179

6.1	Graphical representation of SIN graph. <i>P_main</i> paper is the paper written by either of the disparate researchers under study and latent metapaths between <i>P_main</i> papers may be formed via various vertices types: cited by <i>P_main</i> (<i>P_ref</i>), cites a <i>P_main</i> (<i>P_cite</i>), researcher (R), term (T), and venue (V).	187
6.2	Functional architecture of DRACoR	191
6.3	The architecture of DBCR model	208
6.4	Influence of vector dimensions on: (a) Precision (hep-th) (b) Recall (hep-th)	215
6.5	Influence of vector dimensions on: (a) F1 (hep-th) (b) Precision (DBLP) . . .	215
6.6	Influence of vector dimensions on: (a) Recall (DBLP) (b) F1 (DBLP) . . .	216
6.7	Influence of academic level on: (a) Precision (hep-th) (b) Recall (hep-th) . . .	219
6.8	Influence of academic level on: (a) F1 (hep-th) (b) Precision (DBLP) . . .	220
6.9	Influence of vector dimensions on: (a) Recall (DBLP) (b) F1 (DBLP) . . .	220
6.10	Influence of target researcher’s degree on: (a) Precision (hep-th) (b) Recall (hep-th)	221
6.11	Influence of target researcher’s degree on: (a) F1 (hep-th) (b) Precision (DBLP)	221
6.12	Influence of target researcher’s degree on: (a) Recall (DBLP) (b) F1 (DBLP)	222
6.13	Influence of iteration on: (a) Precision (hep-th) (b) Recall (hep-th)	223
6.14	Influence of iteration on: (a) F1 (hep-th) (b) Precision (DBLP)	223
6.15	Influence of iteration on: (a) Recall (DBLP) (b) F1 (DBLP)	224
6.16	MRCR performance in terms of: (a) Precision (hep-th) (b) Recall (hep-th)	224
6.17	MRCR performance in terms of: (a) F1 (hep-th) (b) Precision (DBLP) . . .	225
6.18	MRCR performance in terms of: (a) Recall (DBLP) (b) F1 (DBLP)	226
6.19	DBCR performance in terms of: (a) Precision (hep-th) (b) Recall (hep-th)	226
6.20	DBCR performance in terms of: (a) F1 (hep-th) (b) Precision (DBLP) . . .	227
6.21	DBCR performance in terms of: (a) Recall (DBLP) (b) F1 (DBLP)	227
6.22	DRACoR performance in terms of: (a) Precision (hep-th) (b) Recall (hep-th)	228
6.23	DRACoR performance in terms of: (a) F1 (hep-th) (b) Precision (DBLP) . . .	229
6.24	DRACoR performance in terms of: (a) Recall (DBLP) (b) F1 (DBLP) . . .	229