

Dhananjay Kumar

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Education

- 2017-Present **Ph.D. in text and network mining From COEAI Department.**
Indian Institute of Technology, Kharagpur, India
Course Work (CGPA) : 9.00
- 2017 **M.Tech in Multimedia Information Processing**
Indian Institute of Technology Kharagpur, India
M.Tech CGPA : 8.46
- 2011 **Bachelor of Engineering in Computer Science**
University Of Mumbai, Maharastra
B.E. Percentage : 63
- 2006 **Higher Secondary School Certificate, Central Board of Secondary Education**
Gyan Bharti Residential Complex, Gaya, Bihar
Percentage : 71
- 2004 **Secondary School Certificate, Central Board of Secondary Education**
Gyan Bharti Residential Complex, Gaya, Bihar
Percentage : 69

Technical Skills

- Programming Languages Python, C
- Operating Systems Linux (Preferred), Windows
- Code Editor Visual Studio Code, Jupyter Notebook, VIM

Projects

M.Tech Major Project

1. **Learning to classify problems into cognitive domains**, We used supervised learning approach to classify problems from different courses of Engineering domains to Bloom'S Cognitive levels.

M.Tech Minor Project

1. **Automatic MCQ generation through DBpedia**, Generating stem key and detractors by querying DBpedia and using NLP to generate multiple choice question's.
2. **Travel Assistance Application**, Task Was to develop a application where traveller searches for a city in google map. After selecting the city in the map, the traveller is provided with information about important places(e.g, monuments museum, hotels, airports etc.).

Ph.D. Work

- 1. Computational fact validation from knowledge graph using structured and unstructured information**, Given a Knowledge Graph, a knowledge corpus, and a fact (triple statement), the goal of fact-checking is to decide whether the fact or knowledge is correct or not. Existing approaches extensively used several structural features of the input Knowledge Graph to address the mentioned problem. In this work, our primary focus was to leverage unstructured information along with structured ones. Our approach considers finding evidence from Wikipedia and structured information from Wikidata, which helps in determining the validity of the input facts.
- 2. Researcher influence prediction using Academic genealogy graph**, In academia researchers join a research community over time and contribute to the advancement of a field in a variety of ways. One of the most established ways to contribute to the field is by publishing research articles and passing on knowledge to the future generations through academic advising. Many academic scholars have more influence, while others fail to make an impact. Typically, academic influence refers to the ability of a researcher to pass on her/his "academic gene" in future researchers. In this article, we propose the task of **Researcher Influence Prediction (ResIP)** to predict researchers' future influence in an academic field through the analysis of the corresponding academic genealogy network. Researcher influence prediction has got several implications as far as different academic outcomes are concerned (e.g. funding, awards, career progression, collaboration, identifying prolific researchers etc.). We propose to model the researcher influence prediction problem as a single point regression task as well as a sequence prediction task.
- 3. On the Banks of Shodhganga: Analysis of the Academic Genealogy Graph in an Indian ETD Repository**, Academic genealogy represents academic lineage and connects academic ancestors and descendants via chain of advisor-advisee relations. An advisor-advisee relation can be defined based on a multitude of academic degrees, e.g., post-doctoral, doctoral, masters, undergraduate and intern. Given the fact that a researcher may be advised by more than one advisor and can advise more than one student, the structure is essentially a lattice that fans out both in forward and backward direction of time. Academic genealogy for a discipline provides analytical insights into the dynamics of academic ties at human, institutional, and territorial scale. It has proven to be a valuable resource in addressing the academic influence patterns including diffusion patterns across disciplines, specifically in the interdisciplinary domains.
- 4. Study of Group influence in Academic genealogy graph (MGP)**, In this work, our goal is to form group for each researcher in academic genealogy graph and then construct network considering groups as nodes and citation between the groups as edges.
- 5. Study of e-index in Academic genealogy graph (MGP)**, In this work goal is to study the excess citation in h-core and finding out the relevance of the e-index in comparison with other metrics (h-index, g-index). And also study the relevance of the metric in terms of researchers academic success.

Area of Research Interest

- 1 Natural Language Processing (NLTK, SPACY, Stanford CoreNLP, GENSIM)
- 2 Deep Learning (Tensorflow)
- 3 Graph Representation Learning

Publications

- 1 Saransh Khandelwal and Dhananjay Kumar. 2020. Computational Fact Validation from Knowledge Graph using Structured and Unstructured Information. In Proceedings of the 7th ACM IKDD CoDS and 25th COMAD (CoDS COMAD 2020). Association for Computing Machinery, New York, NY, USA, 204–208. DOI:<https://doi.org/10.1145/3371158.3371187>

Other Activities

- 1 Attended CoDS-COMAD 2020 conference organised in Hyderabad.
- 2 Worked with two under-graduated students in their final year projects.
- 3 Playing Chess online on chess.com
- 4 Participated in IDAO 2022 (International Data Analysis Olympiad) competition