

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

Technical Skills

Programming Languages

Python, C

Libraries & Frameworks

NLTK, Spacy, Gensim, Pandas, Numpy, Scikit-learn, SciPy, TensorFlow, PyTorch, Scrapy, Matplotlib

Operating Systems

Linux (Preferred), Windows

Code Editor

Visual Studio Code, Jupyter, VIM

Projects

PhD Works

- 1. Researcher Influence Prediction using Academic Genealogy Graph**, In this work, we proposed the task of Researcher Influence Prediction (ResIP) to predict researchers' future influence in an academic field by modelling the researcher academic lineage growth. To address the ResIP, a number of end-to-end deep learning architectures have been proposed.
- 2. Analysis of the Academic Genealogy Graph in an Indian ETD Repository**, In this work, we studied the academic genealogy network (AGN) in Shodhganga which is the Indian Electronic Theses and Dissertations (ETD) database. We have disambiguated the names of the researchers in Shodhganga and constructed the Shodhganga-AGN, which we have analyzed with genealogical metrics proposed in the literature to unravel several patterns in higher education.
- 3. Tracing the Evolution of Research Topics in an Academic Genealogy Graph**, In this work, the objective of the study was to investigate the impact of topic drift on research outcome of a research group.
- 4. Computational fact validation from knowledge graph using structured and unstructured information**, 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 (Triple statements).

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.).

Area of Research Interest

- 1 Natural Language Processing
- 2 Graph Representation Learning
- 3 Deep Learning/Computer Vision/Large Language Models

Publications

- 1 Dhananjay Kumar, Plaban Kumar Bhowmick, Jiaul H Paik, Researcher influence prediction (ResIP) using academic genealogy network,Journal of Informetrics,Volume 17, Issue 2,2023, 101392,ISSN 1751-1577, <https://doi.org/10.1016/j.joi.2023.101392>.
- 2 Dhananjay Kumar, Plaban Kumar Bhowmick, Sumana Dey, Debarshi Kumar Sanyal, On the banks of Shodhganga: analysis of the academic genealogy graph of an Indian ETD repository. Scientometrics 128, 3879–3914 (2023), <https://doi.org/10.1007/s11192-023-04728-z>.
- 3 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, <https://doi.org/10.1145/3371158.3371187>

Certifications

- 1 Generative AI with Large Language Models from Coursera
- 2 Complete Guide to TensorFlow for Deep Learning with Python from Udemy.
- 3 Advanced Web Scrapping with Python using Scrapy & Splash from Udemy.

Extra Curricular Activities

- 1 Finalist of Machine Learning Hackathon Theme in Techgig Codegladiators 2023.
- 2 Finalist of International Data Analysis Olympiad Competition 2022.
- 3 Gate CS 2015 Qualified with AIR 421.
- 4 Gate CS 2014 Qualified with AIR 7698.
- 5 .NET Smart Professional Course from APTECH Computer Education (February 2012 to August 2012)