

Neha Dubey | CS15S020

Indian Institute of Technology Madras

+91-7708392858 • neha20may@gmail.com

in.linkedin.com/in/dubey206neha



Education

Program	Institution	%/CGPA	Year of Completion
M.S. (by Research, CSE)	Indian Institute of Technology Madras, Chennai	8.4	2019
B.Tech. (CS & IT)	M. J. P. Rohilkhand University, Bareilly	9.2	2014
XII Std. (CBSE Board)	Jawahar Navodaya Vidyalaya, Kanpur	88.8	2009
X Std. (CBSE Board)	Jawahar Navodaya Vidyalaya, Kanpur	94.2	2007

Research Interests

- Artificial Intelligence
- Machine Learning
- Natural Language Processing
- Data Mining

Publications

- Dubey, N.; Chakraborti, S.; and Khemani, D. 2018. "Content Selection for Time Series Summarization using Case-Based Reasoning". In Proceedings of the Thirty First International Florida Artificial Intelligence Research Society Conference, FLAIRS 2018, Melbourne, Florida, USA. May 21-23 2018. 395-398
- Dubey, N.; Chakraborti, S.; and Khemani, D. 2018. "Textual Summarization of Time Series using Case-Based Reasoning: A Case Study". In Workshop Proceedings of the 26th International Conference on Case-Based Reasoning, ICCBR 2018, Stockholm, Sweden. July 09-12 2019. 164-174

Course Work

- Artificial Intelligence
- Data Mining
- Natural Language Processing
- Memory Based Reasoning in Artificial Intelligence
- Knowledge Representation and Reasoning
- Machine Learning

Research Projects

1. Textual Summarization of Time Series using Case-based Reasoning

M.S. Project

IIT Madras

- Proposed an end-to-end Case-Based Reasoning (CBR) approach for generating the textual summaries of time series data in the weather domain
- Proposed an approach as the middle ground between top-down (rule-based) and bottom-up (data-driven) approaches by using few domain specific rules at the content selection level
- Evaluated the generated summaries using semantic similarity with the human-authored summaries

2. Natural Language Generation(NLG) System for Generating the Summary of a Given Time Series

Project

IIT Madras in collaboration with Accenture Tech Lab Bangalore

- Built an NLG tool which generates the textual summary for any given time series based on various parameters that depends upon the end user
- Abstracts out the time series in an optimal way using a data analysis technique called segmentation and chooses various critical points from the it to report in the text

Key Projects

1. Alert Generation in Cricket Matches using Fuzzy Inference System

Memory based Reasoning in AI

IIT Madras

- Applied fuzzy inference system in the cricket domain for generating alerts for events that reflects the performance of the team and compared the performance based on Duckworth–Lewis rule

2. AI Agent to Solve the Sudoku Puzzle

Knowledge Representation and Reasoning in AI

IIT Madras

- Implemented the representation of the problem space of the game and various strategies to play Sudoku using SOAR considering the time and space complexity

3. Graph Classification using Frequent Subgraph Mining

Data Mining

IIT Madras

- Analyzed the performance of different subgraph mining algorithms like gSpan, FSG, and Gaston
- Classified the graphs in AIDS dataset using their frequent subgraphs as features
- Implemented an algorithm to construct the canonical labels of a graph which can solve the problem of graph isomorphism

4. Digital Image Watermarking Scheme for Intellectual Property Rights (IPR) Protection

B.Tech.Project

M. J. P. Rohilkhand University, Bareilly

- Implemented various watermarking schemes by adding “hidden” bits to existing data such as images
- Analyzed the robustness of the watermark against various attacks

Scholastic Achievements

- Selected as a delegate (one among 51 delegates across all over India) for the **student exchange program in Japan**
- Won certificate of merit for mathematics in class X from C.B.S.E. (**Top 0.1 percent candidates**)
- All India 750 rank (Score:690/1000) in Graduate Aptitude Test in Engineering (**GATE**) among 149,694 qualified candidates
- Secured **2nd** rank in CS department during B.Tech.

Positions of Responsibility

- Teaching Assistant (TA) for Natural Language Processing(NLP), Computational model of Cognition(CMC), Computational Engineering(CS1100)
- Awarded **Star TA** for NLP (Jan - May 2018), and CMC (Aug - Dec 2017)

Technical Skills

- **Languages:** C, C++, Python, Java
- **Technologies and Tools:** Python (Nltk, Scikit-learn), MATLAB, Weka, L^AT_EX.
- **Databases:** MySQL.
- **Deep learning (Novice):** Pytorch

Extra - Curricular Activities

Social Service.....

- Volunteered for NGO **Code your chances** that teaches young girls the importance of computer literacy
 - Introduced rural girl students to coding and job opportunities
- Volunteered for NGO **Deepam**
 - Conducted free tuition classes at Olcott memorial higher secondary school, Besant nagar, Chennai

Others.....

- Secured 3rd position in “National Youth Parliament Competition” in Navodaya Vidyalaya Samiti Schools at the regional level (Awarded by Ministry of Parliamentary Affairs, Govt. of India)
- Selected in National Team for Kho-Kho (sports) at the school level

References

Dr. Sutanu Chakraborti

Associate Professor

Department of Computer Science and Engineering

Indian Institute of Technology, Madras

Chennai, Tamil Nadu, India - 600036

Prof. Deepak Khemani

Professor

Department of Computer Science and Engineering

Indian Institute of Technology, Madras

Chennai, Tamil Nadu, India - 600036