# Naman Jain
INFORMATION RETRIEVAL · DATA MINING · MACHINE LEARNING

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## Education

**Indian Institute of Technology Gandhinagar** *Gandhinagar, India*

B.TECH (HONORS) IN COMPUTER SCIENCE AND ENGINEERING (**CPI: 8.32/10**) *2016 - Present*

## Publications

Manas Satish Bedmutha*, Kaushal Modi*, Kevin Patel*, **Naman Jain** and Mayank Singh. **PredCheck: Detecting Predatory Behaviour in Scholarly World**. Joint Conference on Digital Libraries (**JCDL 2020**).

Monarch Parmar*, **Naman Jain***, Pranjali Jain*, P Jayakrishna Sahit*, Soham Pachpande*, Shruti Singh and Mayank Singh. **NLPExplorer: Exploring the Universe of NLP Papers**. 42nd European Conference on Information Retrieval. (**ECIR 2020**). [*pdf*]

Akhilesh Ravi*, Amit Yadav*, Jainish Chauhan*, Jatin Dholakia* and **Naman Jain**. **SentEmoji: A Dataset to Generate Empathising Conversations**. ACM India Joint International Conference on Data Science and Management of Data (**CoDS-COMAD 2020**). [*pdf*]

Davinder Singh*, **Naman Jain***, Pranjali Jain*, Pratik Kayal*, Sudhakar Kumawat, Nipun Batra. **PlantDoc: A Dataset for Visual Plant Disease Detection**. ACM India Joint International Conference on Data Science and Management of Data (**CoDS-COMAD 2020**) [*pdf*] [*slides*] [$]

**Naman Jain** and Mayank Singh. **The Evolving Ecosystem of Predatory Journals: A Case Study in Indian Perspective**. 21st International Conference on Asia-Pacific Digital Libraries (**ICADL 2019**) [*pdf*] [*slides*]

**Naman Jain***, Pranjali Jain*, Pratik Kayal*, Jayakrishna Sahit*, Soham Pachpande*, Jayesh Choudhary, Mayank Singh. **AgriBot: Agriculture-Specific Question Answer System**. International Conference on STEM, Vibrant Gujarat (**ICSTEMVG 2019**) [**3rd Best Paper Award**][*pdf*] [$]

$ - These works are also accepted at **14th Inter-Research-Institute Student Seminar in Computer Science** organised by **ACM-India** as posters.

## Internships

**Call Anatomy: Semi-Supervised Sequence Labelling in Voice Calls**

Observe.AI *Bangalore, India*

MENTOR: DR JITENDRA VEPA *June 2019 - July 2019*

- Analysed approx. 5000 calls from 4 clients (each from different domain) for feature extraction
- Proposed a novel active learning based method to predict topics/labels for each dialogue by exploiting temporal and large semantic features
- Engineered a system (End-to-End) for using the proposed technique (Tools: Flask, MongoDB and HTML/CSS)

**What's the buzz in the news about technology in tourism?**

ISTAR (Information Systems Lab), ISCTE-University Institute of Lisbon *Lisbon, Portugal*

MENTOR: PROF SERGIO MORO *May 2018 - July 2018*

- Compiled a dataset of 17,000 articles from tourism and technology domain indexed in Google News
- Proposed a method to utilise topic modelling techniques to extract similarity between tourism and technology sectors through keywords
- Conducted this study to assist business opportunists and marketing sector

## Positions of Responsibility

**Short Course on Data Science and Analytics - TEQIP III** Course Details

TEACHING ASSISTANT *Feb 2020 - Feb 2020*

- Working with Prof. Mayank Singh and Prof. Nipun Batra to deliver three practical sessions on data sciences, helping over 40 participants to learn basic concepts of the field, and developing notebooks for participants.

**CS613: Natural Language Processing** Course Website

TEACHING ASSISTANT *Aug 2019 - Dec 2019*

- Working with Prof. Mayank Singh to design syllabus for the course, deliver four practical sessions on NLP with Deep Learning, managing over 60 students with 3 more TAs, and developing open-source code for students (Assignments, Reference notebooks)
- Mentoring 5 projects: *Neural Title/Catchphrase Generation for Scientific Papers*, *English-Hindi Code-Mixed Lyric Generation*, *Conversation Generator Based on Emotions*, *Classification of Predatory and Legitimate Papers*, *Natural Language to SQL: Query Conversion*

**PyData Gandhinagar Meetup** Meetup Page

ORGANISER *Sep 2018 - Present*

- Initiated a PyData chapter for conducting meetups on advances in Data Science
- Invited distinguished speakers from academia and industry
- 650+ members and growing community by associating local institutes and companies

# Travel Grants

2020 **Student Fellowship**, ECIR 2020

2020 **Student Travel Grant**, CoDS-COMAD 2020

2019 **Swabhanu Challenge Grants by IIT Gandhinagar**, ICADL 2019

# Projects

### Robustness Against Complex Adversarial Attacks
*IIT Gandhinagar*

MENTOR: PROF MAYANK SINGH
*April 2020 - Present*

- Designing a all-in-one defense mechanism against adversarial attacks
- Reproducing the latest adversarial techniques
- Exploring in the direction of cross-domain transfer learning

### Predicting the Long Term Scientific Impact using Tweet Activity
*IIT Gandhinagar and IIT Kharagpur*

MENTOR: PROF MAYANK SINGH, PROF PAWAN GOYAL, PROF ANIMESH MUKHERJEE
*March 2019 - Present*

- Analysing the impact of the medium of citation performance of scientific literature
- Exploring the correlations between the tweet activity and citations
- Leveraging historical tweets and Arxiv.org citation network to conduct study on Arxiv papers

### PlantDoc: A Dataset for Visual Plant Disease Detection `Dataset` `Poster`
*IIT Gandhinagar*

MENTOR: PROF NIPUN BATRA
*Jan 2019 - May 2019*

- Extending the Agribot project by integrating a feature to detect plant diseases
- Proposed a novel dataset(2,500+ Images) of plant leaves for real-life situations
- Proposed a method over previous work to boost the accuracy on real dataset from 30% to 70%
- Built a real-time mobile application which recognises diseased class through object detection

### NLPExplorer: Exploring the world of NLP `Portal` `Dataset`
*IIT Gandhinagar*

MENTOR: PROF MAYANK SINGH
*Jan 2019 - Oct 2019*

- Open source database management system for accessing information related to research papers in NLP
- Compiled, processed and indexed the latest ACL Anthology dataset (55,000+ Papers, 100+ Venues)
- Proposed statistical visualisation techniques to increase explain-ability of research paper
- Proposed full-text based visualisation methods lacking in existing systems such as Google Scholar, AMiner and DBLP

### The Evolving Ecosystem of Predatory Journals
*IIT Gandhinagar*

MENTOR: PROF MAYANK SINGH
*Aug 2018 - July 2019*

- Data-driven approach to study how potential predatory publishers are evolving and bypassing regularity constraints
- Compiled and processed dataset of 498 journals (70,247 papers) from predatory side and 334 Journals (369,102 Papers) from legitimate side
- Argued that predatory publisher dubiously bypasses the majority of Beall's criteria
- Proved that the predatory publishers are adapting themselves to resemble highly reputed publishing groups

### Defining Reputation in Weighted Signed Networks
*IIT Gandhinagar*

MENTOR: PROF ANIRBAN DASGUPTA
*March 2019 - April 2019*

- Incorporating the notion of trust in signed social networks which can be used in detecting fraudulent users and identifying trolls
- Reviewed the existing methods for ranking (Modified PageRank, Personalised PageRank & Fairness and Goodness)
- Through our observations on Bitcoin networks, we concluded that defining reputations is a subjective task biased on the seed set.

### AgriBot: Agriculture-Specific Question Answer System `Demo` `Poster`
*IIT Gandhinagar*

MENTOR: PROF MAYANK SINGH
*Aug 2018 - Dec 2018*

- Automate query processing at the Kisan Call Center due to high redundancy in the types of queries.
- Utilizes a query retrieval algorithm trained on farmer's queries
- Available 24*7 on any electronic device, built-in voice recognition and real-time weather reports

# Social Service

**Database Support, Kerela Floods** Downloaded and compiled the database of people's need following the days of the flood

**Nyasa, IITGN** Volunteered to conduct Health Camps alongwith awareness drives in the villages

# Cultural Activities

### Film-Making Club

FOUNDER AND SECRETARY

- Initiated a hobby group which later became the Film-making Club of IITGN, Vinteo
- Managed the YouTube channel of IITGN and Club
- Participated in competitions such as Inter IIT Cultural Meet, Indian Film Project, IIT Gandhinagar Festivals
- Currently leading a group of 30 students as the secretary to inculcate the skills required in Film-Making