

Dr. Supriya Chanda, PhD

Researcher

Information Retrieval Lab (IReL)

Department of Computer Science and Engineering

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📧 Supriya Chanda

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EDUCATION

- **Indian Institute of Technology (Banaras Hindu University)** Varanasi, India
Ph.D. in Computer Science and Engineering; CPI: 7.33 2018 – 2024
- **University of Hyderabad** Hyderabad, India
Master of Technology in Computer Science; CGPA: 8.38 2016 – 2018
- **Pondicherry University** Pondicherry, India
Master of Science in Computer Science; CGPA: 8.87 2014 – 2016
- **Midnapore College** West Bengal, India
Bachelor of Science in Computer Science; Percentage: 65 2010 – 2014
- **Midnapore Town School** West Bengal, India
Higher Secondary in Science; Percentage: 59 2008 – 2010
- **Keshiary High School** West Bengal, India
Secondary; Percentage: 78.25 2008

AREA OF INTEREST

- Information Retrieval, NLP, Code-Mixing, Hate Speech Identification, Sentiment Analysis, Sarcasm Detection, Machine Learning, Deep Learning, LLM, Web Development

CURRENT RESEARCH WORK

- **Information Retrieval on code-mixed social media data**
Thesis work Dec 2018 - present
 - **Supervisor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
- **Hate content identification in code-mixed social media data**
Thesis work Dec 2018 - present
 - **Supervisor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
- **Sentiment Analysis of Code-Mixed Dravidian Languages**
Thesis work Dec 2018 - present
 - **Supervisor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
- **Word level Language Identification from social media code-mixed data**
Thesis work Dec 2018 - present
 - **Supervisor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)

PROJECTS

- **An Android App for Children's Multilingual e-Magazine** Android/ iOS
Study Project Dec 2018 - present
 - **Supervisor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
 - **Description:** India is a multi-lingual country where provinces are divided based on languages. People migrate across the provinces, and children are reared away from their home provinces, not getting the opportunity to learn their mother tongue properly. Although the children may speak and understand their mother tongue, the majority of them can not read and write in their mother tongue because the necessary script is not taught in school. We are developing a smartphone app that can transliterate the literary text from one's native language to Roman script (English is a lingua franca in India, and the Roman script is taught across the country). The app will display contents in both native script and Roman script so the user can follow and even learn the script.
- **Faster Biometric Authentication using NTRU**
M. Tech project and thesis Aug 2017 - Jun 2018
 - **Supervisor:** Dr. Y V Subba Rao, Associate Professor, University of Hyderabad
 - **Description:** This project is based on how fast we get authentication using biometrics. We take biometrics as a Binary Features Vector (BFV) and then use NTRU for encoding and authentication purposes. NTRU, a new public key cryptosystem based on Homomorphic Encryption. The security of the NTRU public key cryptosystem comes from the interaction of the polynomial mixing system with the independence of reduction modulo p and q (where p and q are small numbers, and there is no common factor).
- **Issue management system in Agile Methodology**
M. Tech (SE Lab) mini project

- **Supervisor:** Dr. Hrushikesh Mohanty, Professor, University of Hyderabad
- **Description:** It's a system tool for issue management in Agile Methodology. Agile Methodology believes in regular problem solving by requirement, design, development, and test engineers. Any of one raises an issue and responds to this person discussed on the problem and the solution to that action. The tool is web-enabled with GUI for each type of user. A user can raise an issue, propose, and carry out the solution, viewing the issue's status.

Application of Geocoding Spatial Query in Real Estate using Google map

M.Sc project

Jan 2016 - May 2016

- **Supervisor:** Dr. S. Sivasathya, Associate Professor, Pondicherry University
- **Description:** The project is An Application of Geocoding and Spatial Query in Real Estate. The system has a database application that facilitates all the users (only two types of users are there) of the system to interact with them and to view the information as per user requirements. It is a real estate portal for buyers and sellers who want to invest in the real estate business.

Many advanced modules use Google API. Users can find the exact location on Google Maps using different techniques. There would be features like login, registration, searching properties, and finding the nearest location based on a particular location point (latitude and longitude value).

Online Blood Bank

B.Sc project

Dec 2013 - Apr 2014

- **Description:** Nowadays, the lack of blood is the most significant problem in the world. Two types of users can use this, Donor and Seeker. If you are willing to donate Blood, you can register as a donor. If you want blood, you can register as a Seeker. Then you can find your nearest donor's information and address. Also, you can search for services like an ambulance or nurse. And register as an owner of an ambulance and nurse.

PROGRAMMING SKILLS

- **Languages:** Python, PHP, HTML, CSS **Frameworks:** NLTK, Sklearn, Gensim
- **Database:** MySql, Oracle **Platform:** Windows, Linux
- **Tools:** Anaconda, Dreamweaver, Photoshop, Microsoft Visio, IBM Rational Rose, UMLet, Texmaker, Git, L^AT_EX

EXPERIENCE

Teaching Assistant

- *ICT in Dairy Industry (DT-319), Dept. of Dairy Sc. & Food Tech., BHU* *July 2024 - Present*
 - **Course Instructor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
 - **Description:** ICT in Dairy Industry (DT-319) for one semester (B.Tech 5th semester) with 18 students.
- *Computer Programming and Data Structure (FT-124), Dept. of Dairy Sc. & Food Tech., BHU* *Feb. 2024 - Jun. 2024*
 - **Course Instructor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
 - **Description:** Computer Programming and Data Structure (FT-124) for one semester (B.Tech 2nd semester) with 15 students.
- *Computer and Application Software Packages (DT-118), Dept. of Dairy Sc. & Food Tech., BHU* *Oct. 2023 - Feb. 2024*
 - **Course Instructor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
 - **Description:** Computer and Application Software Packages (DT-118) for one semester (B.Tech 1st semester) with 8 students.
- *ICT in Dairy Industry (DT-319), Dept. of Dairy Sc. & Food Tech., BHU* *Oct. 2023 - Feb. 2024*
 - **Course Instructor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
 - **Description:** ICT in Dairy Industry (DT-319) for one semester (B.Tech 5th semester) with 26 students.
- *Computer Programming and Data Structure (FT-124), Dept. of Dairy Sc. & Food Tech., BHU* *Jun. 2023 - Sep. 2023*
 - **Course Instructor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
 - **Description:** Computer Programming and Data Structure (FT-124) for one semester (B.Tech 2nd semester) with 28 students.
- *Information Retrieval (CSE - 363 / CSE - 541), Dept. of CSE, IIT (BHU)* *Dec. 2022 - May. 2023*
 - **Supervisor:** Dr. Sukomal Pal, Associate Professor, IIT (BHU)
 - **Description:** Information Retrieval (CSE - 363 / CSE - 541) for one semester(B.Tech 6th sem and B.Tech 8th sem) with 53 students.
- *Computer Programming Lab (CSO-101), Dept. of CSE, IIT (BHU)* *Jan 2022 - May 2022*
 - **Supervisor:** Dr. Lakshmanan Kailasam, Assistant Professor, IIT (BHU)

- **Description:** Worked as a Lab Teaching Assistant in Computer Programming Lab (CSO-101) for one semester(B.Tech 2nd sem) with 151 students.

Teaching Assistant

- *Data Mining (CSE-362), Dept. of CSE, IIT (BHU)* *Aug. 2021 - Nov. 2022*
 - **Supervisor:** Dr. Bhaskar Biswas, Associate Professor, IIT (BHU)
 - **Description:** Working as a Teaching Assistant in Data Mining (CSE-362) for one semester(B.Tech 5th and 7th sem) with 81 students.

Teaching Assistant

- *Computer Programming Lab (CSO-101), Dept. of CSE, IIT (BHU)* *Jan. 2019 - May. 2019*
 - **Supervisor:** Dr. Pratik Chattopadhyay, Assistant Professor, IIT (BHU)
 - **Description:** Worked as a Lab Teaching Assistant in Computer Programming Lab (CSO-101) for one semester(B.Tech 2nd sem) with 118 students.

Teaching Assistant

- *Introduction of Algorithm, SCIS, UOH* *Jan. 2018 - May. 2018*
 - **Supervisor:** Dr. Y V Subba Rao, Associate Professor, University of Hyderabad
 - **Description:** Worked as Teaching Assistant in Introduction of Algorithm for one semester(MCA 4th sem) with 66 students.

System Administrator

- *Artificial Intelligence Lab, SCIS, UOH* *Jul. 2017 - Dec. 2017*
 - **Description:** I worked as a student system administrator for one semester at AI Lab. we used NIS and NFS for student authentication and each student's separate account.

Cryptography Project Manager

- *Cryptography class Assignment, SCIS, UOH* *Oct. 2016 - Dec. 2016*
 - **Supervisor:** Dr. Y V Subba Rao, Associate Professor, University of Hyderabad
 - **Description:** We had a Cryptography course in which we were assigned to create a project on cryptography. we had to divide the teams according to modules related to cryptography and make one final application that contained a few functionalities related to cryptography.

EVENTS AND WORKSHOPS (ATTENDED)

- **Dec' 2024:** Attended the **Fifth Indian Symposium on Machine Learning (IndoML)**, which is hosted by the BITS Pilani (Goa Campus) between 21-23 December 2024.
- **Dec' 2024:** Attended 16th meeting of the Forum for Information Retrieval Evaluation (**FIRE 2024**) (DAIICT Gandhinagar).
- **Dec' 2023:** Attended the **Forth Indian Symposium on Machine Learning (IndoML)**, which is hosted by the Indian Institute of Technology Bombay (IITB) between 21-23 December 2023. Certificate
- **Dec' 2022:** Attended the **Third Indian Symposium on Machine Learning (IndoML)**, which is hosted by the Indian Institute of Technology Gandhinagar (IITGN) between 15-17 December 2022. Certificate
- **Dec' 2022:** Attended 14th meeting of the Forum for Information Retrieval Evaluation (**FIRE 2022**) (Virtual Event). Certificate
- **Aug' 2022:** Attended a one-week High-End Workshop (KARYASHALA) in PHYSICAL (in-person) mode entitled **Advanced Statistical and Machine Learning Models** organized by Department of Electronics Engineering, IIT (BHU) Varanasi and sponsored by the Science & Engineering Research Board (**SERB**), Government of India. August 22nd to August 28th, 2022 Certificate
- **Dec' 2021:** Attended 13th meeting of the Forum for Information Retrieval Evaluation (**FIRE 2021**) (Virtual Event). Certificate
- **Nov' 2021:** Attended the Online Asian Machine Learning School (OAMLS), which is a part of the Asian Conference on Machine Learning (ACML) 2021 (Virtual Event). Certificate
- **Dec' 2020:** Attended 12th meeting of the Forum for Information Retrieval Evaluation (**FIRE 2020**) hosted by IDRBT, Hyderabad (Virtual Event).
- **Sep' 2019:** Attended Autumn School for Information and Retrieval Information Foraging (**ASIRF 2019**) in the top 20 students organized by Trier University and the German Information Retrieval Specialist Group, and it is funded by the German Academic Exchange Service (DAAD). Certificate
- **Dec' 2017:** Attended 37th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (**FSTTCS 2017**) organized by Indian Institute of Technology, Kanpur.
- **Oct' 2017:** Attended Workshop on Current Issues and Applications of Statistical Methods organized by School of Mathematics and Statistics, University of Hyderabad. Certificate
- **Oct' 2017:** Attended Two-Day workshop on Topics in Linear Algebra and Machine Learning organized by School of Computer and Information Sciences, University of Hyderabad. Certificate
- **Dec' 2016:** Attended Sixth International Conference on Security, Privacy and Applied Cryptographic Engineering (**SPACE 2016**) organized by C.R.Rao Advanced Institute of Mathematics, Statistics, and Computer Science.
- **Feb' 2015:** Attended **ITRIX'15: A workshop on BIG DATA AND MACHINE LEARNING** by Microsoft organized by Anna University, Chennai. Certificate

ROLE AND RESPONSIBILITY

- **FIRE-2024, Role - Track Organiser**
DAIICT, Gandhinagar, India *Dec 12-15, 2024*
 - **Responsibility:** Organized a shared task track as a part of FIRE Conference, held from Dec 12-15, 2024, in DAIICT, Gandhinagar, India.
- **FIRE-2024, Role - Reviewer**
DAIICT, Gandhinagar, India *Dec 12-15, 2024*
 - **Responsibility:** Reviewed submitted paper for the FIRE Conference, held from Dec 12-15, 2024, in DAIICT, Gandhinagar, India.
- **ICAAIMLS-2024, Role - Reviewer**
Siksha 'O' Anusandhan (Deemed to be) University, Bhubaneswar, India *Dec 20-21, 2024*
 - **Responsibility:** Reviewed submitted paper for the ICAAIMLS Conference, held from Dec 20-21, 2024, in Siksha 'O' Anusandhan (Deemed to be) University, Bhubaneswar, India.
- **SPELLL 2024, Role - Program Committee Member**
VIT, Chennai, INDIA *Dec 04-06, 2024*
 - **Responsibility:** Served as a Program Committee member for the SPELLL: Third International Conference on Speech and Language Technologies for Low-resource Languages 2024, held from Dec 04-06, 2024, in VIT, Chennai, INDIA. I reviewed the submitted papers.
- **DHOW, Role - Program Committee Member**
Stuttgart, Germany *May 21-24, 2024*
 - **Responsibility:** Served as a Program Committee member for the DHOW: Diffusion of Harmful Content on Online Web Workshop, part of the 16th ACM Web Science Conference 2024, held from May 21-24, 2024, in Stuttgart, Germany. I reviewed the submitted papers.
- **FIRE-2023, Role - Reviewer**
Goa University, Panjim, India *Dec 15-18, 2023*
 - **Responsibility:** Reviewed submitted paper for the FIRE Conference, held from Dec 15-18, 2023, in Goa University, Panjim, India.
- **Springer Nature Journal, Role - Reviewer**
Springer Nature Computer Science *2022 - present*
 - **Responsibility:** Reviewed submitted paper for the Springer Nature Computer Science journal.
- **Hostel Executive Committee (HEC) Role - Mess and Canteen Secretary**
IIT BHU *Sep. 2022 - July 2024*
 - **Description:** Elected HEC member overseeing Mess and Canteen operations at Prof. S N Bose Hostel, IIT BHU since September 2022, ensuring smooth functioning and addressing residents' needs. Collaborating with the committee to enhance culinary services, manage resources effectively, and contribute to a positive hostel experience.
- **Departmental Training and Placement Representative (PhD)**
IIT BHU *May. 2023 - May. 2024*
 - **Description:** Appointed as the 2023-2024 Departmental Training and Placement Representative for PhD students, facilitating connections between academia and industry, and organizing career-focused events. Advocating for fellow PhD candidates, bridging their aspirations with professional opportunities, and actively participating in workshops and seminars to boost employability.

AWARDS

- **2024:** Awarded student travel grant to attend the **IndoML 2024**
- **2024:** Awarded a Certificate of Appreciation for handling the role of Mess and Canteen Secretary at Prof. S N Bose Hostel, where I took numerous initiatives. **Certificate**
- **2023:** Awarded student travel grant to attend the **IndoML 2023**
- **2022:** Awarded student travel grant to attend the **IndoML 2022**
- **2022:** Awarded NVIDIA DLI Certificate for completing Building Conversational AI applications. **Online Certificate**
- **2020:** Awarded student travel grant to attend the **CODS-COMAD 2020**
- **2019:** Awarded student travel grant to attend the scientific event "Autumn School for Information and Retrieval Information Foraging (ASIRF)" 2019 in Germany provided by the DAAD.
- **2018:** Qualified Graduate Aptitude Test in Engineering (**GATE**) with **86.13** Percentile
- **2017:** Secured 1st place in Poster Competition on Anti-Drug Day organized by University of Hyderabad.
- **2016:** Qualified Graduate Aptitude Test in Engineering (**GATE**) with **89.02** Percentile
- **2015:** Secured 3rd place in Poster Competition organized by **Department of Tourism Studies(Pondicherry University) and Department of Tourism(Government of India)** at Pondicherry University.
- **2015:** Awarded Merit Fellowship during M.Sc from Pondicherry University.
- **2015:** Awarded Medal for being First Class during B.Sc from Midnapore College.
- **2009:** Merit-Cum-Means Scholarship based on 10th class result.
- **2007:** Completed 1st year with distinction at practical art in Painting, from Nikhil Bharat Sangeet Samiti, Kolkata.

PUBLICATIONS

- **2024:** Sentiment analysis of code-mixed Dravidian languages leveraging pretrained model and word-level language tag. **S Chanda**, A Mishra, S Pal. *Natural Language Processing*, Published online by Cambridge University Press. doi:10.1017/nlp.2024.30
- **2024:** Towards Safer Online Spaces: Deep Learning for Hate Speech Detection in Code-Mixed Social Media Conversations. **S Chanda**, A Dhaka, S Pal. *In Companion Publication of the 16th ACM Web Science Conference (Websci Companion '24)*. Association for Computing Machinery, New York, NY, USA, 103–109. <https://doi.org/10.1145/3630744.3663610>
- **2023:** The Effect of Stopword Removal on Information Retrieval for Code-Mixed Data Obtained Via Social Media. **S Chanda**, S Pal. *SN Computer Science*
- **2023:** Sarcasm Detection in Tamil and Malayalam Dravidian Code-Mixed Text. **S Chanda**, A Mishra, S Pal. *Forum for Information Retrieval Evaluation (FIRE) (Working Notes)*, page number: 336-343
- **2023:** Crossing Borders: Multilingual Hate Speech Detection. **S Chanda**, A Dhaka, S Pal. *Forum for Information Retrieval Evaluation (FIRE) (Working Notes)*, page number: 486-500
- **2023:** Advancing Language Identification in Code-Mixed Tulu Texts: Harnessing Deep Learning Techniques. **S Chanda**, A Mishra, S Pal. *Forum for Information Retrieval Evaluation (FIRE) (Working Notes)*, page number: 223-230
- **2022:** Coarse and Fine-Grained Conversational Hate Speech and Offensive Content Identification in Code-Mixed Languages using Fine-Tuned Multilingual Embedding. **S Chanda**, S Sheth, S Pal. *Forum for Information Retrieval Evaluation (FIRE) (Working Notes)*
- **2022:** Sentiment Analysis and Homophobia detection of Code-Mixed Dravidian Languages leveraging pre-trained model and word-level language tag. **S Chanda**, A Mishra, S Pal. *Forum for Information Retrieval Evaluation (FIRE) (Working Notes)*
- **2021:** Fine-tuning Pre-Trained Transformer based model for Hate Speech and Offensive Content Identification in English, Indo-Aryan, and Code-Mixed (English-Hindi) languages. **S Chanda**, S Ujjwal, S Das, S Pal. *Forum for Information Retrieval Evaluation (FIRE) (Working Notes)*
- **2021:** Is Meta Embedding better than pre-trained word embedding to perform Sentiment Analysis for Dravidian Languages in Code-Mixed Text? **S Chanda**, RP Singh, S Pal. *Forum for Information Retrieval Evaluation (FIRE) (Working Notes)*
- **2020:** IRLab@ IITBHU at WNUT-2020 Task 2: Identification of informative COVID-19 English Tweets using BERT. **S Chanda**, E Nandy, S Pal. *Proceedings of the Sixth Workshop on Noisy User-generated Text (W-NUT 2020)*
- **2020:** IRLab@ IITBHU@ Dravidian-CodeMix-FIRE2020: Sentiment Analysis for Dravidian Languages in Code-Mixed Text. **S Chanda**, S Pal. *Forum for Information Retrieval Evaluation (FIRE) (Working Notes)*, 535-540
- **2020:** IRLab@ IITV at SemEval-2020 Task 12: Multilingual Offensive Language Identification in Social Media Using SVM. A Saroj, **S Chanda**, S Pal. *Proceedings of the Fourteenth Workshop on Semantic Evaluation*, 2012-2016

BOOK CHAPTER

- **2024:** **Supriya Chanda**, Sukomal Pal. Hate content identification in code-mixed social media data. *CRC Press , Taylor & Francis Group*. DOI: <https://doi.org/10.1201/9781003409519>
- **2024:** **Supriya Chanda**, Krishna Tewari and Sukomal Pal. Innovations in LLM Architectures: From RNNs to Transformers. *CRC Press , Taylor & Francis Group*. [Accepted](#)

HOBBY

- Painting, Sketching, Photography, Playing Cricket, Listening to Music

REFERENCES

- Dr. Sukomal Pal, Associate Professor, IIT (BHU). spal.cse@itbhu.ac.in
- Dr. Y V Subba Rao, Associate Professor, University of Hyderabad. yvsrscs@uohyd.ac.in
- Dr. Tribikram Pradhan, Assistant Professor, Tezpur University (Central). tribikram14@gmail.com