

Girishkumar Ponkiya

Ph.D. Scholar at IIT Bombay, Mumbai

✉ girishp@cse.iitb.ac.in | girish.isical@gmail.com
☎ +91-9004009268 / 7021387332
🏠 http://www.cse.iitb.ac.in/~girishp
🌐 /girishponkiya | in/in/girishponkiya | 📁 /users/1726226

OBJECTIVE

To delve into the problem of intelligent information access – especially with natural language, learn continuously in the process and make contributions in developing useful solutions.

EDUCATION

Qualification	Board/University	Year	CPI / %
Ph.D (Computer Science) <i>submitted</i>	IIT Bombay, Mumbai	2022 (expected)	7.7 CPI
M.Tech (Computer Science)	Indian Statistical Institute, Kolkata	July 2013	78.67 %
B.E. (Computer Engineering)	Saurashtra University, Rajkot	April 2009	66.77 %

Relevant Course Work

IIT Bombay: Foundation of Machine Learning, Speech, NLP and the Web, Artificial Intelligence, Topics in NLP (Machine Translation).

ISI Kolkata: Pattern Recognition, Advance Algorithms, Graph Theory, Probability and Stochastic Process, Image Processing.

EXPERIENCE/INTERNSHIP

- **Data Scientist (AVP)**, ISS ESG, Mumbai *Mar 2021 to present*
- **Machine Learning Consultant**, UnFound, Mumbai *Dec 2018 to Jun 2019*
Responsibilities: Advised on ML pipeline, assisted fellow team members in ML related tasks.
Outcome: Re-defined question answering and stance detection pipeline by using BERT; Developed multi-task learning approach for stance detection.
- **Research Intern**, TRDDC, Pune *May 2014 to July 2014*
- **Research Intern** (Theoretical Computer Science), IMSc, Chennai *May 2012 to July 2012*
- **Trainer & Software Developer** (Java and PHP), Ishu InfoNet, Rajkot (GJ) *Sep 2009 to May 2010*
- **Software Developer Trainee** (Java/J2EE), HCL CDC, Ahmedabad *Jan 2009 to Apr 2009*
(*Best Trainee award*) .

INVITED TALKS

- Talk on *Entities and Relations* at AICTE-ISTE approved STTP program on NLP Novice-to-Pro, Shah & Anchor Kutchhi Engineering College, Mumbai. (Jan 7, 2020)
- Talk on *Noun Compound Interpretation* at Workshop on Natural Language Processing, VIVA Institute of Technology, Virar, June 20-24, 2016.

THESIS AND PROJECT

- **Ph.D. Thesis: Noun Compound Interpretation.** (*submitted**)
Under the guidance of Prof Pushpak Bhattacharyya and Mr. Girish K. Palshikar (TRDDC, Pune).
Description: A noun compound is a sequence of two or more nouns acting as a single noun, e.g., *student protest*, *colon cancer*, etc. The information, about how individual nouns in the compound are related (*student(s)* is a doer of the *protest*, while *colon* is a location of *cancer*), is missing at the surface level. Interpretation of the noun compound is the task of uncovering such information automatically.
Proposed (1) an LSTM-based supervised model for prepositional paraphrasing, (2) unsupervised methods for prepositional paraphrasing and free paraphrasing using pre-trained language models, and (3) FrameNet-based relations.

Awarded Best Poster (Technical) at Research-Scholar Mela 2016 at CSE Department of IIT Bombay.

- **Priority Search Tree for Secondary Memory and its Application** Aug 2012 to July 2013
M.Tech dissertation under the guidance of Prof. Subhas C. Nandy at ISI Kolkata.
Objective: Given a very large set of points in R^2 , create an external data-structure (on a secondary device) to efficiently report MER (Maximum-area Empty Rectangle) around a given query point.
Result: (1) Proposed an algorithm to create an external priority search tree with linear space in log-linear time; (2) Show that all the standard queries can be answered efficiently; (3) Proposed an algorithm to solve MER problem with extra $O(\log n)$ space in main memory. (Nominated for Best Dissertation Award)

PUBLICATIONS

- [1] Siddhesh Pawar, Shyam Thombre, Anirudh Mittal, Girishkumar Ponkiya, and Pushpak Bhattacharyya. “Tapping BERT for Preposition Sense Disambiguation”. In: *arXiv preprint arXiv:2111.13972* (2021). URL: <https://arxiv.org/abs/2111.13972>.
- [2] Girishkumar Ponkiya, Diptesh Kanojia, Pushpak Bhattacharyya, and Girish Palshikar. “FrameNet-assisted Noun Compound Interpretation”. In: *Findings of the Association for Computational Linguistics: ACL-IJCNLP 2021*. 2021, pp. 2901–2911. URL: <https://aclanthology.org/2021.findings-acl.256>.
- [3] Girishkumar Ponkiya, Rudra Murthy, Pushpak Bhattacharyya, and Girish K Palshikar. “Looking inside Noun Compounds: Unsupervised Prepositional and Free Paraphrasing using Language Models”. In: *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing: Findings (Findings of EMNLP)*. 2020, pp. 4313–4323. URL: <https://www.aclweb.org/anthology/2020.findings-emnlp.386>.
- [4] Girishkumar Ponkiya, Kevin Patel, Pushpak Bhattacharyya, and Girish K Palshikar. “Treat us like the sequences we are: Prepositional Paraphrasing of Noun Compounds using LSTM”. In: *The 27th International Conference on Computational Linguistics (COLING)*. Santa Fe, New-Mexico, USA, 2018, pp. 1827–1836. URL: <https://www.aclweb.org/anthology/C18-1155>.
- [5] Girishkumar Ponkiya, Kevin Patel, Pushpak Bhattacharyya, and Girish K Palshikar. “Towards a Standardized Dataset for Noun Compound Interpretation”. In: *Language Resources and Evaluation Conference (LREC)*. Miyazaki, Japan, 2018, pp. 3092–3097. URL: <https://www.aclweb.org/anthology/L18-1489>.
- [6] Girishkumar Ponkiya, Pushpak Bhattacharyya, and Girish K Palshikar. “On Why Coarse Class Classification is a Bottleneck for Noun Compound Interpretation”. In: *13th International Conference on Natural Language Processing (ICON)*. 2016, pp. 293–198. URL: <http://www.aclweb.org/anthology/W16-6336>.

TECHNICAL SKILLS

- **Expertise:** NLP (Natural Language Processing), ML (Machine Learning).
- **Programming Language:** Python, C/C++, Java.
- **Relevant Libraries/Tools:** NumPy, Pandas, scikit-learn (sklearn), SciPy, NLTK, CoreNLP, Theano, PyTorch, TensorFlow, Keras.

POSITION OF RESPONSIBILITY

- Served as elected **General Secretary** of Hostel-1, IIT Bombay for the year 2016-17. (Acting General Secretary for the year 2017-18)
- **IBM Campus Ambassador** (at ISI Kolkata) for the year 2012-2013.

OTHER ACHIEVEMENTS

- Passed **GATE-2013**. Percentiles: **99.78**; All India Rank: 495.
- Passed **JEST-2013** with 65th rank.
- Cleared C2C Java Exam, conducted by Government of Gujarat and TCS, with percentage of 100%.
- Stood 1st in **Junk Yard War**, part of Integration-2012 (Tech-fest at ISI Kolkata).

Date: June 4, 2022

Place: IIT Bombay, Mumbai

Girishkumar M. Ponkiya