

# RATNA K.N.S.R.

Language and Cognition Lab, Indian Institute of Technology Hyderabad  
Email: [la19resch11006@iith.ac.in](mailto:la19resch11006@iith.ac.in), [ratnanirupama@gmail.com](mailto:ratnanirupama@gmail.com)  
LinkedIn Profile: <https://www.linkedin.com/in/nirupama-ratna-065007271/>

**INTERESTS**     Syntax, Natural Language Processing

## EDUCATION

**Indian Institute of Technology Hyderabad**, Ph.D. Linguistics, Expected: 2024 (GPA: 9/10)

- **Organized** weekly tutorial sessions on natural language syntax, in particular, Phrase Structure Grammar (PSG) to a batch of 200+ B.Tech students.

**University of Hyderabad**, Master in English Language Studies, 2019 (GPA: 8.8/10)

**University of Hyderabad**, Integrated Masters in Systems Biology, 2017 (GPA: 7.5/10)

## PUBLICATIONS

- **R. Nirupama** & P. Mondal. (2023). On the Implementation of the Algorithm for Representation of Discontinuity in Natural Language. *ICNLP 2023* (to be published in IEEE Xplore).
- **R. Nirupama** & P. Mondal. (2022). The Representation of Discontinuity and the Correspondence Principle. *PACLIC36*. <https://aclanthology.org/2022.paclic-1.3/>

## AWARDS AND HONORS

<b>Full Fee Waiver</b> based on merit, Neuromatch Deep Learning Course	2023
<b>Best Presentation Award</b> , 5 <sup>th</sup> International Conference on Natural Language Processing (ICNLP)	2023
<b>Senior Research Fellowship</b> , Ministry of Education, Govt. of India	2021
<b>Junior Research Fellowship</b> , Ministry of Education, Govt. of India	2019
<b>National Eligibility Test - Linguistics</b>	2018 & 2019
<b>GATE Fellowship – Ecology and Evolution (AIR 52)</b>	2019
<b>TSSET – Life Sciences</b>	2017
<b>Second Best Poster Award</b> , GIAN workshop on Ionic Signaling and Human Disease (₹5000/- cash prize)	2016
<b>Full Tuition Fee waiver</b> based on merit	2002-03

## TALKS

1. *On the Implementation of the Algorithm for Representation of Discontinuity in Natural Language*. ICNLP, Guangzhou, 2023.
2. *The Representation of Discontinuity and the Correspondence Principle* at PACLIC36, Manila (Online), 2022.
3. *Choice of Discipline and English Language Proficiency Levels*, National Seminar on Innovative Practices and Research in the Era of Digi Education, Hyderabad as M.A. student, 2019.
4. *Academic Background, Language Proficiency and Choice of Discipline : An Exploration*, National Seminar on Interfaces in English Language Studies: Research and Practice, Hyderabad as M.A. student, 2019.
5. Postgrad Thesis Defense  
*Mushroom Body Circuitry to understand the role of feedback mechanisms from the alpha and beta lobes to the calyx*, May 2017.
6. GIAN Workshop on Ionic Signaling Poster Session  
*Memory Retrieval by Activating Engram Cells in Mouse Models of Early Alzheimer's disease* by Dheeraj Roy et al., Hyderabad as I.M.Sc student - July 2016.

## RESEARCH EXPERIENCES

<b>Ph.D.</b>	2019 – 2024
▪ <b>Achieved</b> a unified representation of continuity and discontinuity in natural language by <b>integrating</b> constituency relations, head-dependent relations, and functor-argument relations, for 4 simple and 4 complex discontinuous sentences. <b>Proposed</b> the correspondence principle to unify the dependency and the functor-argument relations.	

- **Published** papers in ACL-Anthology and IEEE Xplore

**University of Hyderabad, India**

2018-2019

*Research Intern*

- **Designed** and **conducted** an innovative study; **Explored** the impact of academic background on language proficiency levels among 132 undergraduates in the age group of 17-23 years through questionnaires, and **analyzed** the data using Microsoft Excel.
- **Presented** the research findings at two national seminars.

**University of Hyderabad, India**

May 2016 - May 2017

*Masters Project*

- **Constructed** a model of the locust brain's Mushroom Body Circuitry using NEURON and analyzed data from Clamp Patch simulations using MATLAB.

**University of Hyderabad, India**

Summer 2015

*Research Intern*

- **Analyzed** RNA-Seq datasets to **investigate** RNA expression changes during Neural Stem Cell differentiation in mouse using Microsoft Excel
- **Contributed** as a second author to the presentation of research findings as a poster at IISER Trivandrum.

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**SERVICE**

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**ACADEMIC:**

**National Seminar on English Language Education in India**

Hyderabad

*Student Volunteer*

March, 2018

- **Coordinated** with speakers and panelists, **welcomed** and **registered** attendees, **managed** logistics, **led** Q&A sessions, and **facilitated** the smooth running of the event.

**Project Akshara**

Hyderabad

*Student Volunteer*

Jan 2014 - Apr 2014

- **Trained** 150+ children in maths and English, **organized** activities to promote a more positive and supportive learning environment, **gained** experience in working with children from disadvantaged backgrounds, and **developed** strong communication, interpersonal, and teaching skills.

**NON-ACADEMIC:**

**International Relations Cell, IITH**

2023 – Present

*Ph.D. Outbound Coordinator*

**Alumni Cell, IITH**

2023 – Present

*Outreach Coordinator*

**Martial Arts Club, IITH**

2023 - Present

*Instructor*

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**TECHNICAL SKILLS**

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• Microsoft Office • MATLAB • Linux • Adobe Acrobat • Technical Writing • Machine Learning

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**LANGUAGES**

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**Computer:** Python; experience in MATLAB, R, C

**Natural:** proficient in English (Fluent), Telugu (Native), Hindi (Fluent), Russian (Elementary)