NEELABJA ROY

— ***MS (by Research) graduate, Cognitive Science, Indian Institute of Technology Kanpur*** —
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About: aspires to explore the many comparative aspects behind the emergence & persistence of social cognition

EDUCATION

Indian Institute of Technology, Kanpur *August 2018 - October 2021*
Master of Science (by Research) - MS (by Research) Cognitive Science *GPA: 9.44/10*
Thesis Title: Me & Them: Investigations into the Perceptual Generalisation of Self-Referential Prioritisation - Guide: Dr Ark Verma & Dr Harish Karnick

Heritage Institute of Technology, Kolkata *August 2014 - June 2018*
Bachelor of Technology, Computer Science and Engineering *GPA: 7.78/10*

RESEARCH & WORK EXPERIENCE (ALL DETAILED)

+ **Formal Employment**:

Project Research Associate, Language and Cognition Lab, IIT Kanpur - (Jan '22 onwards)
Leading multiple projects (including assisting a doctoral project) investigating and modelling the consequences of varying social preferences in perceptual-response tasks of memory, attention and economic decision making. Additionally testing the effects of handedness and laterality in the processing of social and perceptual stimuli.

Research Analyst (State Lead, Strategic Research Insights), IndianPAC Consulting - (Feb-Dec '21)
Informing voter choices, policy preferences for demographic groups in the historic West Bengal Elections'21

+ **Ongoing Academic Collaborations with**:

Dr Christopher Krupenye, Psychological & Brain Sciences, Johns Hopkins University (May '22 -)
Analysing the factors behind the partner-choice patterns in coalition-solicitation by chimpanzees during conflicts

Dr Urvaksh Mehta's lab, National Institute of Mental Health and Neurosciences India (Feb '22-)
Comparing the response patterns to socially-associated stimuli between normative and schizophrenic patients

Dr Pragathi Balasubramani, Translational Neuroscience & Technology Lab, IIT-K (April '22-)
Designing an audition-substitution device to translate social sounds to tactile feedback patterns for deaf patients

+ **Academic**.

Me & Them: Investigations into the Perceptual Generalisation of Self-Referential Prioritisation.
MS(R) Thesis - Dr.Ark Verma & Dr.Harish Karnick, Cognitive Sciences, IIT Kanpur - Aug 2019 to Aug 2021
Tested if self-referent prioritisation accorded previously only to single neutral exemplars is generalisable to entire collectives of familiar/unfamiliar stimuli through the common simple-features; and if even such basic associations can tease out differential intergroup attitudes of Approach/Avoidance towards the whole group-category.

Does Cooperation help? A Study in Agent Based Modeling (Project guide: Dr.Harish Karnick)
Based on an agent-based model system, we developed a primitive, resource-constrained society of explorers and exploiters, & tested if and how cooperation in communication would yield fitter societies as well as out-compete other societies with lower levels of cooperation (again, in terms of communication) in resources and fitness.

Longitudinal Responses of Sense of Agency Scale in COVID-19 -India (May to Nov '20)
Tracked response changes in Sense of Agency Scale (Tapal et al,2017) between two months in COVID lockdown

Internet's Effect on Attention and Reading (Jan-Apr'19) (Course Project: Methods & Tools in Cog Sci)
Eye-tracking study and analysis, on the differences between internet-naive sample and internet-savvy people to investigate the effects of regular hyperlinked method of browsing on attention span and reading habits.

Self and Mother-Association Effects in an Indian sample (RA with Dr. Ark Verma)
(article published at QJEP) acknowledged contribution with research and data analysis finding absence of any difference between Self and Mother referent processing given collectivistic, familial Indian tendencies.

Using the Model of Motor Planning in Self to Recognise Motor Action in Others
(Summer Research Fellowship Program-Indian Academy of Sciences 2016; CNCS, Dr Joby Joseph, India)
Applying an ANN to try to model a mirror-neurons based system that learns to recognise and imitate motor actions of Others by using the model of body-ownership, action recognition, planning and execution in self

Paleokymophony - A Novel Approach to Audio-Encryption Technique
(Bachelor of Technology Final Year Project - HIT, Kolkata. Guide: Prof. Reshma Roychowdhury)
A unique audio-encryption & compression approach with transference of sound to visual medium- spectrophony.

Android Apps: Smart Vehicle Tracker & Integrated Pedometer (Summer Intern, Techsol Technologies)
Developed an integrated location-tracking application for international client serving a truck-delivery enterprise.

+ **Co-curricular**.
Innovation, Entrepreneurship and Economic Development (Intern 2017- NITI Aayog, Govt of India):
-did data analysis and policy research on the inter-relation of critical factors in developing/developed economies.

"Social Inclusion, Digital Inclusion" (Dr.Somprakash Bandyopadhyay, Social Informatics, IIM Calcutta):
Data assessment for online teaching-learning platform connecting underprivileged students w. retired teachers.

ACADEMIC PUBLICATIONS

+ **Journal Submission**.
Roy N., Karnick H. & Verma A. Evidence for the Generalisation of the Self-Prioritization Effect based on Similarity (Submitted - under Review)

Roy N., Karnick H. & Verma A. More towards Self than Strangers: Differential social prioritisation evidenced with Approach Avoidance Task in an online study (Submitted)

+ **Published**.
(Acknowledged for Contribution- journal publication) Verma A, Jain A, Srinivasan N. Yes! I love my mother as much as myself: Self- and mother-association effects in an Indian sample. Quarterly Journal of Experimental Psychology. 2021;74(12):2210-2220. doi:10.1177/17470218211033118 [link]

(Conference) Roy N., Karnick H. & Verma A. (2020). Evidence of Self Referential Prioritization on the basis of Visual Features: Attributing Salience to Rule - Learning. In S. Denison., M. Mack, Y. Xu,& B.C. Armstrong (Eds.), Proceedings of the 42nd Annual Conference of the Cognitive Science Society (p.1423). [Abstract link]

(Conference) Neelabja Roy & Harish Karnick (2019), Does Cooperation help: A Study Based on Agent-Based Modelling, in the Sixth Annual Conference of the Association for Cognitive Science in India, ACCS. (p151)

(Conference) Neelabja Roy & Ark Verma (2019). Generalization of Self-Reference Effect: Group Reference Effect on the basis of Visual Features, in the 6th ACCS 2019, India (p137)

+ **In Preparation**.
Roy N., & Verma A. Response advantages to varying social salience in visuospatial working memory binding

Roy N, Ahmad I, & Verma A., Differential switching cost of Mother to Self association in perceptual paradigm

CONFERENCES (PRESENTED WORK IN)

ICP 2021- The 32nd International Congress of Psychology, Prague July 2021
Oral Presentation- Self-prioritisation as generalised to group-level effect

COGSCI 2020, Cognitive Science Society, Toronto Canada July 29 to Aug 1, 2020
Presented my research poster at the conference; abstract published in proceedings

Annual Conference of Cognitive Science 2019, BITS Pilani, India -I December 2019
Presented my poster on 'Does Cooperation help? A study in Agent-Based Modelling

Annual Conference of Cognitive Science 2019, BITS Pilani, India -II December 2019
Presented poster: 'Generalisation of Self Reference Effect: Group Reference on visual features'

Annual Summer Research Symposium, TFR, Center For Interdisciplinary Sciences July 2016
Presented my poster on my summer research work

WORKSHOPS ATTENDED

Diffusion Weighted Imaging Workshop (Center for Behavioral and Cognitive Sciences, Allahabad) June 2022
Winter School on Cognitive Modelling, Indian Institute of Technology Mandi February 2019
Winter School on NLP and Big Data for Psycholinguistics, GIAN, IIT Kanpur Dec' 2018
Annual Conference of Cognitive Science India 2018, Indian Institute of Technology, Guwahati October 2018
5th Computer Science Undergraduate Summer School, Indian Institute of Science Bangalore June 2017

AWARDS AND GRANTS

+ Recipient of the Summer Research Fellowship 2016 grant of the Indian Academy of Sciences
+ Best Poster- Annual Summer Research Symposium 2016, Tata Institute of Fundamental Research
+ Selected to attend the prestigious undergraduate summer school of IISc, Bengaluru (2017)

TECHNICAL SKILLS

Programming: Python, R, C, C++, Java, MATLAB, Latex, Nengo, PyIBL, ACT-R, HTML-CSS, JS
Software: Psychopy, OpenSesame, Pavlovia, Psytoolkit, Netlogo, SPSS, JASP, Arduino, Office
Techniques: Psychophysical, EyeTracking, GSR, EEG, fMRI (DWI tractography), Computational
Languages: Proficient in English, Bengali, Hindi, French (A1 Certified), Spanish (Basics)
TOEFL Score: **110** (Reading- 30, Listening- 29, Speaking- 25, Writing- 26) Test date: 02/02/2022

MAJOR COURSES TAKEN

Graduate: Foundations of Cognitive Science, Neurobiology, Human Cognitive Processes, Methods & Tools- Cognitive Science, Computational Cognitive Science, Audit: Social Psychology, Evolutionary Game Dynamics, Philosophy of Mind
Undergraduate: Computational Biology, AI, ML, Data Structure & Algorithm, Linear Algebra, Formal Language and Automata, Graph Theory, Electronics, Microcontrollers, Microprocessors, DBMS, Data Mining, Web Intelligence & Big Data, Social Network Analysis, Sys Admin

POSITIONS OF RESPONSIBILITY

Senate Masters Nominee, Academic Ethics Cell, Indian Institute of Technology Kanpur 2019-20.

Convener, Post Graduate Students' Affairs Council, Students' Gymkhana, IIT Kanpur 2019-20.

Director of Community Services 2016, Rotaract Club of HITK (June to Sep, 2016).

EXTRA-CURRICULAR AWARDS

Awarded the prestigious Teach for India Fellowship of 2018-20 (declined due to academic commitments).

Winner of Excellent teacher, Outstanding Rotaractor Award for Rotaract Heritage (2015-16)

Second Runners up in the Presidency National Parliamentary Debate Tournament

REFERENCES

Dr Harish Karnick
Emeritus Fellow, Department of Cognitive Sciences, Indian Institute of Technology, Kanpur
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Dr Christopher Krupenye
Assistant Professor, Department of Psychological and Brain Sciences, Johns Hopkins University, USA
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Assistant Professor, Department of Cognitive Sciences, Indian Institute of Technology, Kanpur
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Dr Pragathi Balasubramani
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