

Abhishek Baba

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EDUCATION

Indian Institute of Technology, Kanpur

Uttar Pradesh, India

Doctor of Philosophy in Cognitive Science

July 2021- June 2025

- Coursework CGPA: 7.79
- Pre thesis submission seminar: 12/02/2025
- PhD Defense (Tentative): May 2025

Indian Institute of Information Technology, Guwahati

Assam, India

Master of Technology in Communication and Signal Processing

July 2019- May 2021

- CGPA: 9.56
- MTech Batch Topper Certificate, 2019

North Eastern Regional Institute of Science and Technology

Arunachal Pradesh, India

Bachelor of Technology in Electronics and Communication Engineering

July 2015- June 2019

- CGPA: 7.43

North Eastern Regional Institute of Science and Technology

Arunachal Pradesh, India

BASE Degree (Class 12 equivalent)

July 2013- June 2015

- Percentage: 75.68

Kendriya Vidyalaya Bilaspur

Chhattisgarh, India

AISSE (Class 10)

April 2012- March 2013

- CGPA: 9.8

EXPERIENCE

Doctoral Thesis

August 2021- June 2025

Indian Institue of Technology Kanpur

Uttar Pradesh, India

- Thesis title: Us versus Them: Evidence for Pervasive Ingroup Bias in Social Behavior.
- Investigating intergroup behavior within the minimal group paradigm through the lens of ingroup-outgroup distinction, and possible ways of mitigating societal biases.
- Study 1: Bayesian modeling using hierarchical Drift-Diffusion Model investigating ingroup favoritism across varying social narratives in perceptual matching tasks.
- Study 2: Investigating media polarization and ingroup bias in the context of news media consumption, believability, sharing, and voting behavior.
- Study 3: Social categorization principle investigating magnitude of endowed and agentic group biases.
- Psychopy, R, JASP, Python, Bayesian Modeling

Lowlands Pornfessions

August 2024-

Erasmus University

Rotterdam, The Netherlands

- Project title: Towards a New Theory and Methods for Understanding the Social Organization of Sexual Attraction
- Two sub-studies connecting the body as a psychobiological entity to the body as a social entity.
- PsychoPy, Eye-tracking, ECG, R, Python

PSA008: Minimal Groups

August 2024-

Large-Scale Cross-Cultural Project

Multi-Lab, Global

- Project title: Large-Scale Cross-Societal Examination of Real and Minimal Group Biases.
- Investigating ingroup bias in specific social contexts versus as a general psychological tendency.
- canvas (online experiment platform), R, Python

Master's Project

August 2020- May 2021

Indian Institue of Information Technology Guwahati

Assam, India

- Project title: Photo Core Transform for JPEG XR Image Compression.
- A novel software implementation of forward and inverse photo core transforms for JPEG XR image compression.
- MATLAB

Research Intern

May 2020- July 2020

Indian Institute of Information Technology Allahabad

Uttar Pradesh, India

- Project title: EEG Analysis of a Visual Attention Task Using ICA.
- An 8-week project studying different types of brain signals and analysing them on MATLAB.
- MATLAB, EEG Toolbox

Bachelor's Project

August 2018- May 2019

North Eastern Regional Institute of Science and Technology

Arunachal Pradesh, India

- Project title: Automatic Target Positioning with Computer Vision.
- Real time object identification involving a 6 degree-of-freedom robotic arm, equipped with computer vision using a pair of webcam.
- Arduino, Haar-Cascade Trainer GUI, Python

Research Intern

June 2018- July 2018

Centre for Development and Advanced Computing, Kolkata

West Bengal, India

- Project title: Speech Processing and Analysis Using PRAAT and MATLAB.
- A 4-week project getting acquainted with the vastness of signal processing applications in our day-to-day life, specifically to speech processing.
- MATLAB, PRAAT

Diploma Project

January 2017- May 2017

North Eastern Regional Institute of Science and Technology

Arunachal Pradesh, India

- Project title: Arduino Quadcopter
- Cost effective quadcopter design using Arduino, gyroscope and an accelerometer.
- Arduino

PUBLICATIONS AND ACHIEVEMENTS

Conference Talk/Poster

- Baba, A., & Verma, A. (2024). "The Dichotomy of Bias Behavior: Inhibition of Automaticity in Ingroup Bias for Deliberative Decisions?" 11th Annual Conference of Cognitive Science (ACCS 11), IIT Bombay, 2024. (Poster)
- Baba, A., & Verma, A. (2024). "Holier-Than-Thou: Can Contextual Information About Minimal Groups Modulate the Robust In-Group Bias Effect?" Proceedings of the 46th Annual Conference of the Cognitive Science Society, Rotterdam, 2024. (Poster)
- A. Baba and A. Verma, "The role of information/misinformation on our perceptual judgments of minimal groups." 33rd International Congress of Psychology (ICP), Prague, 2024. (Talk)
- A. Baba and A. Verma, "Is mine always better? Evidence for ingroup bias moderation through information dynamics in group relations." 10th Annual Conference of Cognitive Science (ACCS X), IIT Kanpur, 2023. (Talk)

Peer-reviewed journal articles & conference proceedings

- Baba, A., & Verma, A. (2025). Scroll-Time and Echo-Chambers: Effect of Mass Media on Ingroup Bias and Polarization. (reviews awaited)
- Baba, A., & Verma, A. (2025). Chosen or Assigned: Exploring the Notion of Choice in the Manifestation of the Ingroup Bias. (reviews awaited)
- Baba, A., Thaikkandi, S., & Verma, A. (2024). Mine is Merrier: A Process Description of the Robust Ingroup Bias Across Contexts Using the Perceptual-Matching Task. (reviews awaited)
- Baba, A., & Verma, A. (2024). Holier-Than-Thou: Can Contextual Information About Minimal Groups Modulate the Robust In-Group Bias Effect? Proceedings of the 46th Annual Conference of the Cognitive Science Society. (Link)
- A. Baba and R. Biswas, "Pipeline Architecture of Forward and Inverse Photo Core Transform for JPEG XR Image Compression," 2021 International Conference on Intelligent Technologies (CONIT), 2021, pp. 1-5, doi: 10.1109/CONIT51480.2021.9498482.

- A. Baba and R. Biswas, “Multiplier-less Lifting-based Photo Core Transform for JPEG XR Ultrasound Image Compression,” 2021 2nd International Conference for Emerging Technology (INCET), 2021, pp. 1-6, doi: 10.1109/INCET51464.2021.9456329.

Achievements

- Graduate Aptitude Test in Engineering (GATE- 2023), Psychology (C5) All India Rank 240.

TEACHING ASSISTANCE

Teaching Assistance, NPTEL

Feb - April 2025

Indian Institute of Technology Kanpur, India

Course Name: Psychology of Bilingualism and Multilingualism

Teaching Assistance, NPTEL

Aug - Oct 2023

Indian Institute of Technology Kanpur, India

Course Name: Introduction to Advanced Cognitive Processes

Teaching Assistance, Department of Cognitive Science

Aug - Nov 2023; Aug - Nov 2022

Indian Institute of Technology Kanpur, India

Course Name: Introduction to Cognitive Science (CGS 401A)

Teaching Assistance, Department of Cognitive Science

Jan - April 2023, 2025; May - July 2023

Indian Institute of Technology Kanpur, India

Course Name: Introduction to Psycholinguistics (CGS 621A)

TECHNICAL SKILLS

Software: R, Python, JASP, MATLAB

Applications: Experiment Design, Data Analysis, Eye-tracking, ECG, EEG, GameMaker Studio, Machine Learning

Platforms: MS Office, GameMaker Studio, PRAAT, OrCAD and PCB Design

EXTRA CURRICULAR ACTIVITIES

National Cadet Corps

NCC 'C' Certificate, NERIST, August 2016.

Robotics and Innovation Laboratory

Lab Coordinator, NERIST, July 2017- June 2019.

NERIST All India Students' Associations

General Secretary, NERIST, January 2017- January 2018.

Students' Union of NERIST

Co-convenor, NERIST, April 2017- April 2018.

SONBYSS (Cultural Fest of NERIST)

Hospitality and Transportation In-charge, NERIST, July 2017- November 2017.

SYNERGY (Annual Sports Meet of NERIST)

Sports Secretary, Hostel- Block F, NERIST, July 2016- June 2017.

Hobbies

Reading novels, playing guitar, running, sketching.

CONTACT INFORMATION OF REFEREES

- Dr. Ark Verma (Supervisor, PhD thesis)
Assistant Professor (Dept. of Cognitive Science, IIT Kanpur)
email: arkverma@iitk.ac.in
- Dr. Rakesh Biswas (Supervisor, Master's project)
Assistant Professor (Dept. of Electronics and Communication Engineering, IIIT Guwahati)
email: b.rakesh@iiitg.ac.in
- Mr. Edison Moirangthem Singh (Course Instructor, Bachelor's)
Assistant Professor (Dept. of Electronics and Communication Engineering, NERIST)
email: em@nerist.ac.in