



# Srijita Karmakar

*Indian Institute of Science Education and Research (IISER), Kolkata*

## Education

- 2017-present **5 year Integrated BS-MS Dual Degree (Major in Biological Sciences, 5th year), Indian Institute of Science Education and Research (IISER), Kolkata.**  
**CGPA: 9.41** (out of 10, cumulative over 9 semesters, expected graduation: June 2022)
- 2017 **Higher Secondary Education Examination, Delhi Public School, Kolkata.**  
AISSCE percentage: 93.5%
- 2015 **Secondary Education Examination, Auxilium Convent School, Kolkata.**  
ICSE percentage: 95.6%

## Research Experience

### Publications

- April 2021 **Original Research Article.**  
Dasgupta, D. *et al.* Altered Food Habits? Understanding the Feeding Preference of Free-Ranging Gray Langurs Within an Urban Settlement. *Front. Psychol.* 12:1120 (2021) doi: <https://doi.org/10.3389/fpsyg.2021.649027>
- Contribution: Extensive field work based data collection, data analysis

### Accepted Conference Abstract: Vision Sciences Society 2022

- May 2022 **Original Research Abstract.**  
**Karmakar, S.,** and Das, K. "Does visual experience with face masks aid face recognition during the COVID-19 pandemic?"

### Projects and Internships

- Aug 2021 - present **Master's Research Project, IISER Kolkata, Dr. Koel Das, DMS, IISER Kolkata.**  
Master's thesis work on the neural underpinnings of face perception in humans, by utilizing statistical pattern recognition and machine learning
- Aug-Dec 2020 **Semester Reading Project, IISER Kolkata, Dr. Koel Das, DMS, IISER Kolkata.**  
Reading Project on Machine Learning and its applications in the analysis of EEG data. Learned about Bayesian Decision Theory and techniques for feature extraction such as LDA and PCA, and model evaluation using cross validation and bootstrapping to train and test classifiers
- May-July 2019 **Summer Internship, University of Calcutta, Dr. Manabi Paul, Dept. of Env. Sc., Science College, Kolkata.**  
Interned in the field of Animal Behaviour to study primate-human interaction and unique feeding behaviour displayed by a group of urban-adapted primates (Gray Langurs). The work consisted of building an ethogram based on ad-libitum study, subsequent field work and learning to analyze behaviour through data

### Contact Information

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May-July 2018 **Summer Internship, IISER Kolkata, Dr. Mohit Prasad, DBS, IISER Kolkata.**  
Interned in the field of *Drosophila* genetics to study the effect of Homoeopathy medicines, such as Arsenicum and Gelsemium, on fruit fly development with focus on eye development in a mutant strain, and also learned techniques to dissect, stain and image *Drosophila* ovary

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## Teaching Experience

Spring 2022 **Teaching Assistantship, Evolutionary Biology, Dr. Anindita Bhadra, IISER Kolkata.**  
Duties: TA to 50-odd second year undergraduates

Fall 2021 **Teaching Assistantship, Cell Biology, Dr. Bidisha Sinha, IISER Kolkata.**  
Duties: TA to 50-odd third year undergraduates

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## Achievements

2022 **Qualified UGC-NET (June 2021) Junior Research Fellow (JRF).**  
Percentile: 99.44, Rank: 100

2022 **Vision Sciences Society 2022 Travel Award Recipient.**

2017 **DST-INSPIRE Scholarship (JBNSTS Senior Scholar).**  
Awarded the prestigious DST-INSPIRE (Department of Science and Technology-Innovation in Science Pursuit for Inspired Research, Govt. of India) Scholarship (JBNSTS Senior Scholarship: ranked among **top 10 scholars**)

2015 **Jagdish Bose National Talent Search Junior Scholar.**  
Awarded the JBNSTS Junior Scholarship, Govt. of West Bengal

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## Conferences and Workshops

March, 2021 **Brain Awareness Week, IIT Gandhinagar.**  
Selected for and attended a series of online talks, workshops and panel discussions organized as part of the Brain Awareness Week, hosted over a week by the Centre for Cognitive and Brain Sciences, IITGN

January, 2021 **7th Annual Conference of Cognitive Science.**  
Attended a series of online talks and panel discussions organized and hosted over 3 days by the Association for Cognitive Science (ACS)

November, 2020 **MathWorks Webinar Series.**  
Attended webinars on the topics of Data Science, Machine Learning and introductory Deep Learning with emphasis on the application of MATLAB programming language

January, 2019 **Understanding Behaviour.**  
Attended the Understanding Behaviour conference in person, organized hosted over 3 days by IISER Kolkata, on behavioural research across disciplines and methods of study

December, 2017 **Vijyoshi (DST-INSPIRE) National Science Camp.**  
Attended the annually-held three-day national science camp organized by Dept. of Science and Technology, Govt. of India

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## Technical Skills

Languages **Python, MATLAB (including Psychtoolbox), Java, C++**

Softwares **Origin, ImageJ, L<sup>A</sup>T<sub>E</sub>X, Kintek Explorer, Chimera**

Wet-Lab **Cell Culture, Immunostaining, PCR, Gel Electrophoresis**

Techniques **EEG data analysis, Confocal Fluorescence Microscopy, Spectroscopy, etc.**

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## Standardized Test Scores

- July, 2021 **General GRE.**  
Analytical Writing: 5.0, Verbal Reasoning: 163, Quantitative Reasoning: 165
- July, 2021 **TOEFL-iBT.**  
118 (Reading: 30, Listening: 30, Speaking: 28, Writing: 30)

## Language Skills

**Native Bengali and Hindi, Fluent English, Elementary Spanish.**

## Relevant Undergraduate Coursework

- Life Sciences Neurobiology, Cognition, Mathematical Biology, Biostatistics, Biophysics, Bioinformatics, Evolutionary Biology, Ecology, Physiology, Molecular Genetics, Gene Regulation, Cell Biology, Biochemistry, including relevant laboratory course-work
- Mathematics Differential Equations, Probability, Statistics, Machine Learning, Network Analysis
- Others Computer Programming (Python), Non-Linear Dynamics, Intro. to Psychology
- Curriculum Effect of different wavelengths of visible light on bacterial growth (2019), Foraging behaviour of *Monomorium pharaonis* ants (2020), Analysis of real data having small-sample-size problem using Machine Learning (2021), among others

## Extra-curricular Activities and Skills

- Teaching Have been actively involved in teaching as a part of our institute non-profit initiative, namely *Ek Pehal* (An Initiative), to teach Science, Math and English to young children from local under-privileged families for over 2 years
- Organizing Have been an active member of the organizing team for the Art Event (ArtBeat) of the IISER-K annual fest, 2019
- Extra-curricular
- o Member of the institute biological sciences journal club, Biome
  - o Member of the institute LGBT+ initiative *IKQRAAR* (IISER-K Queer Resolution And Allies of the Rainbow)
  - o Achieved first position in a Sci-poetry competition organized as a collaboration between the IISER-K Literary and Science Clubs, 2021
  - o Selected for and completed a trek to Brahmatal Summit (>12000 feet) in Uttarakhand, India (organized by IISER Kolkata, 2020)
  - o Orange belt holder in martial arts (Shotokan Karate, 2018)
  - o Achieved the First Runner-Up position in the challenging "iThink" team-event (on the theme of inter-disciplinary science), IISER Kolkata annual fest, 2018
  - o Participated in the national annual science quiz *Mimamsa* (IISER Pune, 2018; 2019)
  - o Participated in institute-level sports tournaments, such as Kho-Kho and Badminton, and cultural events and workshops
  - o Awarded the "Best Student Award" in terms of discipline and moral values while in Auxilium Convent School (2013)
  - o Passionate about literature, writing, running, cycling, films and music, and I turn to my guitar, ukulele, books and poetry to rejuvenate my mind
- Strengths Perseverance, diligence, drive, critical thinking, team-work, scientific writing, time-management, interdisciplinary research

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