

# Mrugank Dake

*A Boltzmann Brain*

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[@the\\_memory\\_guy](https://mindmemory.github.io)

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## Education

New York University  
Ph.D. Cognition & Perception  
*Advisor: Dr. Clayton Curtis*

Sept 2021 - ongoing

Indian Institute of Science Education & Research (IISER) Tirupati  
B.S. - M.S. Dual Degree Biology (w/ minor in Physics)  
*Thesis Advisor: Dr. Nandini Rajamani*

May 2021

## Publications

**Dake M.**, Rajamani N. (in prep). Inter and intra species similarities and differences using acoustic analysis of *Funambulus* squirrels of the Indian subcontinent.

**Dake M.**, Curtis C. E. (2024). Perturbing human V1 degrades the fidelity of visual working memory. *bioRxiv*.

## Posters

**Dake M.**, Curtis C. E. Do perturbations to visual cortex impact working memory?; In *Society for Neuroscience (SfN)*, Washington D.C., USA (2023)

Khare S., Chopra S., Grover H., Vohra T., Mahmood U., Jatwani K., Kaushik D., Pandey A., Bhardwaj S., Tanwar A., Singh J., Shekhar C., **Dake M.**, Krishnamoorthy K., Kumar K. Li-Koff: To Detect and Degrade N-Nitrosamines; In *Giant Jamboree (iGEM)*, Boston, USA (2020)

Amar I., Avadhani K., Bajaj M., Balasubramanian D., Bhagat S., Chutani N., **Dake M.**, Khatri U., Krishna N., Jacob M., Mal S., Mohapatra O., Pal A., Saha D., Tripathy B., Mukherjee R., Rao B.J. CoCa coli: probiotic immunotherapy against colon cancer; In *Giant Jamboree (iGEM)*, Boston, USA (2019)

## Conference & Workshop Talks

**Dake M.**, Curtis C. E. Perturbing human V1 degrades the fidelity of visual working memory; In *Working Memory Symposium (Virtual)*, (2024)

## Fellowships & Awards

|                |  |
|----------------|--|
| 2021 - present | MacCracken Doctoral Fellowship, New York University  |
| 2020           | Indian Biological Engineering Competition (iBEC) 2020 Grant: Team mentor for International Genetically Engineered Machine (iGEM) Manav Rachna Institute  |
| 2019           | Indian Biological Engineering Competition (iBEC) 2019 Grant and Gold Medal at Giant Jamboree, Boston: Student Team Leader for International Genetically Engineered Machine (iGEM) IISER_Tirupati |
| 2016 - 2021    | Innovation in Science Pursuit for Inspired Research (INSPIRE) Fellowship, DST India  |
| 2015           | Pune Regional Winner and 5th at National Level for Indian National Brain Bee (INBB)  |

## Undergrad Internships

|      |   |
|------|---|
| 2019 | EEG and MRS Analysis for underpinning neural correlates of attentional blink<br><i>Advisor: Dr. Sridharan Devarajan, IISc Bangalore</i>                                     |
| 2018 | Isolation and characterization of neurons and glia from goat hippocampal culture<br><i>Advisor: Dr. Vasudharani Devanathan, IISER Tirupati</i>                              |
| 2018 | Identifying differentially expressing tumor suppressor genes in Drosophila melanogaster wing and haltere imaginal discs<br><i>Advisor: Prof. L S Shashidara, IISER Pune</i> |
| 2018 | RNA Origami (Square) using in-vitro replication and transcription<br><i>Advisor: Dr. Ashwani Sharma, IISER Tirupati</i>   |
| 2017 | Head direction cell model for rodents with Internal Updating Mechanism<br><i>Advisor: Dr. Collins Assisi, IISER Pune</i>  |

## Teaching

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|----------------|--|
| 2024 - present | Teaching Assistant for EEG/MEG/iEEG Methods Course with Dr. Sebastian Michelmann, NYU      |
| 2023           | Teaching Assistant for Introduction to Cognitive Neuroscience with Dr. Clayton Curtis, NYU |
| 2023           | Teaching Assistant for Linear Systems with Dr. Larry Maloney, NYU                          |
| 2020 - 2021    | Statistics Tutor at Chegg India  |
| 2019 - 2020    | Biology Tutor at Sanfoundry, Sanfoundry's Global Learning Initiative                       |
| 2019 - 2021    | Biology Tutor at Chegg India   |

## Mentoring

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|----------------|--|
| 2024 - present | Michael George, Research Assistant, NYU    |
| 2024           | Adwita Joglekar, BS-MS Student, IISER Pune |
| 2024           | Malavika B, BS-MS Student, IISER Tirupati  |
| 2023 - present | Jacob Serfaty, Masters Student, NYU        |
| 2023 - 24      | Yuyang Xu, Undergraduate Student, NYU      |
| 2020           | iGEM Team, Manav Rachna Institute          |

|           |   |
|-----------|---|
| 2020 - 21 | Kunal Gokhale, Research Assitant, IISER Tirupati        |
| 2020 - 21 | Madhurika Abhyankar, Research Assistant, IISER Tirupati |
| 2020 - 21 | Dilshad Kannian, Research Assitant, IISER Tirupati      |

## In Real World

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|-------------|---|
| 2023        | Website Coordinator for Climatedmatch Academy 2023                      |
| 2023        | Student organizer for PhD Cognition and Perception 2023 Open House, NYU |
| 2016 - 2020 | Co-ordinator at Bio wissen (Biology Club), IISER Tirupati               |
| 2017        | Co-ordinator at Shemushi (Quiz Club), IISER Tirupati                    |
| 2016        | Rural education volunteer at Disha, Student Outreach Club, IISER Pune   |