

Mrugank Dake

A Boltzmann Brain

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Department of Psychology,
New York University.
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[mindmemory.github.io](https://github.com/mrugaio/mindmemory)
[@the_memory_guy](https://twitter.com/the_memory_guy)

Education

New York University
Ph.D. Cognition & Perception (GPA: 3.95/4.0)
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) (GPA: 8.2/10)
Thesis Advisor: Dr. Nandini Rajamani

May 2021

Publications

- Dake M., Dandekar S., Curtis C. E. (in prep). Working memory synchronizes oscillations within and across cortical areas
- Dake M., George M., Serfaty J., Curtis C. E. (in prep) Role of V1 in representing orientation during working memory
- Dake M., Curtis C. E. (2025). Perturbing human V1 degrades the fidelity of visual working memory. *Nature Communications*.

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

Teaching / Work Experience

2025	Data Science Intern, Meta Reality Labs, Meta
2024	Teaching Assistant for iEEG/EEG/MEG Methods Course with Dr. Sebastian Michelmann, NYU
2023	Teaching Assistant for Introduction to Cognitive Neuroscience with Dr. Clayton Curtis, NYU
2023	Teaching Assistant for Math Tools III: Linear Systems with Dr. Larry Maloney, NYU
2020 - 2021	Statistics and Biology Tutor at Chegg India

Mentoring

2024	Michael George, Research Assistant, NYU
2023 - 24	Jacob Serfaty, Masters Student, NYU
2023 - 24	Yuyang Xu, Undergraduate Student, NYU
2020	iGEM Team, Manav Rachna Institute
2020 - 21	Kunal Gokhale, Research Assistant, IISER Tirupati
2020 - 21	Madhurika Abhyankar, Research Assistant, IISER Tirupati
2020 - 21	Dilshad Kannian, Research Assistant, IISER Tirupati

In Real World

2023	Website Coordinator for Climatedmatch Academy 2023
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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

Skills

Programming Software	Advanced: Python, MATLAB, R; Intermediate: LaTeX, HTML; Basic: CSS, JavaScript Tensorflow, Keras, scikit-learn, PyTorch, MNE-Python, Git, GitHub, fMRIPrep, SimNIBS, Psychtoolbox, Adobe Illustrator, Adobe Photoshop
Neuroimaging	EEG, MEG, fMRI, TMS, signal processing and analysis, neural networks, computational modeling