

# Mrugank Dake

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 New York, NY

 [github.com/mindemory](https://github.com/mindemory)

## EDUCATION

### New York University

PHD IN COMPUTATIONAL COGNITIVE NEUROSCIENCE

Advisor: Dr. Clayton Curtis

GPA: 3.95/4.0

New York, NY

Expected Graduation: May 2026

### MPhil in Psychology

May 2025

Relevant Coursework: Linear Algebra for Neural & Cognitive Science, fMRI Analysis Methods, Computational Neuroscience

### Indian Institute of Science Education & Research (IISER)

Tirupati, India

BS-MS Dual Degree (Biology & Physics)

August 2021

GPA: 3.3/4.0

Relevant Coursework: Nonlinear Dynamics & Chaos, Statistical Thermodynamics, Linear Algebra (I & II), Calculus (Univariate and Multivariate)

## PUBLICATIONS

- **Dake M.**, Curtis C. E. (2025). Perturbing human V1 degrades the fidelity of visual working memory. *Nature Communications*.
- **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*) Perturbing human V1 during WM reduces perceptual biases in orientation

## POSTERS & TALKS

- **Dake M.**, Dandekar S., Curtis C. E. Working memory synchronizes oscillations within and across cortical areas; *Society for Neuroscience (SfN), San Diego CA, USA* Nov 2025
- **Dake M.**, Dandekar S., Curtis C. E. Working memory synchronizes oscillations in visual cortex; *Computational Cognitive Neuroscience (CCN), Amsterdam, Netherlands* May 2025
- **Dake M.**, Curtis C. E. Perturbing human V1 degrades the fidelity of visual working memory; *In Working Memory Symposium (Virtual)* July 2024
- **Dake M.**, Curtis C. E. Do perturbations to visual cortex impact working memory?; *In Society for Neuroscience (SfN), Washington D.C., USA* Nov 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; *Giant Jamboree (iGEM), Boston, USA* Nov 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; *Giant Jamboree (iGEM), Boston, USA* Nov 2019

## PRE-DOCTORAL RESEARCH EXPERIENCE

- Statistical and Machine learning approaches to Squirrel Acoustics (Masters' Thesis) Aug 2020 - Aug 2021  
Advisor: Dr. Nandini Rajamani, IISER Tirupati, India
- EEG and MRS Analysis for underpinning neural correlates of attentional blink May - Dec 2019  
Advisor: Dr. Sridharan Devarajan, IISc Bangalore, India
- CoCa coli: probiotic immunotherapy against colon cancer (iGEM project, student leader) Jan 2018 - Nov 2019  
Advisors: Dr. Raju Mukherjee; Dr B J Rao, IISER Tirupati, India

- Isolation and characterization of neurons and glia from goat hippocampal culture  
*Advisor: Dr. Vasudharani Devanathan, IISER Tirupati, India* Sep 2018 - May 2019
- Identifying differentially expressing tumor suppressor genes in *Drosophila melanogaster* wing and haltere imaginal discs  
*Advisor: Prof. L S Shashidara, IISER Pune, India* May - Aug 2018
- RNA Origami (Square) using in-vitro replication and transcription  
*Advisor: Dr. Ashwani Sharma, IISER Tirupati, India* Jan - March 2018
- Head direction cell model for rodents with internal updating mechanism  
*Advisor: Dr. Collins Assisi, IISER Pune, India* May - Aug 2017

## NON-ACADEMIC EXPERIENCE

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- Teaching Assistant for Scientific Programming (MA Course, 20 students)  
*Instructor: Dr. Shannon Tubridy, NYU* Sep - Dec 2025
- Product Data Science (PhD) Intern  
*Meta Reality Labs, Meta* May - Aug 2025
- Teaching Assistant for iEEG/EEG/MEG Methods Course (PhD Course, 17 students)  
*Instructor: Dr. Sebastian Michelmann, NYU* Sep - Dec 2024
- TA for Introduction to Cognitive Neuroscience (Undergrad Course, 120 students)  
*Instructor: Dr. Clayton Curtis, NYU* Sep - Dec 2023
- Teaching Assistant for Math Tools III: Linear Systems (PhD Course, 7 students)  
*Instructor: Dr. Laurence Maloney, NYU* Jan - May 2023
- Website Design Coordinator  
*Climatematch Academy* May - Nov 2023
- Statistics & Biology Tutor  
*Chegg India Inc.* Jan 2019 - Aug 2021

## AWARDS

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- Society for Neuroscience Trainee Professional Development Award (USD 1000) 2025
- NYU Graduate School of Arts and Science Conference Travel Grant (USD 500) 2025
- Dean's Award for Research Communication Excellence (NYU) (USD 2000) 2025
- MacCracken Doctoral Fellowship (NYU) (USD 36000/year) 2021-2026
- Indian Biological Engineering Competition (iBEC) 2020 Grant (INR 1 million) 2020
- Indian Biological Engineering Competition (iBEC) 2019 Grant; Gold Medal at Giant Jamboree, Boston (iGEM) IISER Tirupati (INR 1 million) 2019
- INSPIRE Fellowship, Department of Science and Technology India (INR 60000/yr) 2016-2021
- Pune Regional Winner and 5th at National Level for Indian National Brain Bee (INBB) 2015

## SKILLS

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**Languages:** English (Fluent), Marathi (native), Hindi (native), German (Basic), Spanish (Basic)

**Programming Skills:** ADVANCED: Python, MATLAB, R, SQL, LaTeX, HTML; INTERMEDIATE: CSS, JavaScript

**Software Skills:** Tensorflow, Keras, scikit-learn, PyTorch, Fieldtrip, MNE-Python, Git, Github, SimNIBS, Psychtoolbox, Adobe Illustrator, Adobe Photoshop

**Neuroimaging & Modeling Skills:** EEG, MEG, ECoG, fMRI, TMS, time-series analysis, neural networks, computational modeling, machine learning