Curriculum Vitae

Nishant Jana

[nishantjana5@gmail.com](mailto:nishantjana5@gmail.com)

GitHub : @[invisilico](https://github.com/invisilico)

Twitter : @[In\_Visilico](https://twitter.com/In_Visilico)

|  |  |
| --- | --- |
| Education | |
| 2017 - 2021  Institution  Electives | Bachelor’s in Technology, Biotechnology – First Class with Distinction  SRM Instititute of Science and Technology, India  Cell and Mol. Neuroscience, Developmental Biology, Cellular and Molecular Biology, Biostatistics, Calculus, MATLAB, Electrical and Electronics Engineering, Workshop, VR, Bioinformatics |
| Research Experience | |
| Aug 2021 - Present  July 2020 - Present  Dec 2019  May 2019 -  May 2021 | Project Associate – I, Dr. Pavan Agrawal’s lab, Centre for Mol. Neurosciences, KMC Manipal   * Fabrication of fly bowls, fly bubbles and a custom fly-on-a-ball set-up * Developing hardware and software for high-throughput behaviour analysis pipelines * Training deep neural network models for pose estimation and behaviour classification * Exploring the effects of social isolation on social behaviours and aggregation [current project]   Collaborator, de la Iglesia Lab, University of Washington, Seattle   * Initiated the Digital Rhythms Project; Rhythms in Human Behaviour: Sleep and Work * Built a method to extract and analyse digital “activity” data * Crafted a tutorial notebook for teaching undergraduate students   Visiting Student – Clock Club (BNL), Dr. Sheeba Vasu, JNCASR, Bangalore   * Learnt about biological clocks and ways of detecting rhythms in behaviour * Gained skills in setting up experiments using Drosophila Activity Monitors * Designed thesis project on rhythms in redox state of pacemaker neurons [slated - COVID19]   Student Researcher at Fly Lab, Dr. S. Sahabudeen, SBE, SRM IST, Chennai, India   * Learnt the methods of fly pushing and husbandry * Practiced dissections of adult fly brains, VNC, heart, larval brains, guts, and musculature * Performed biochemical assays as well as molecular methods (Western Blots, Reverse Transcriptase-PCR) |
| Publications | |
| Chemosphere2021  In Prep  In Prep | Sarkar, A., Mahendran, S., Meenakshisundaram, A., Christopher, V., Dan, P., Sundararajan, V., **Jana, N.**, Venkatasubbu, D., & Sheik Mohideen, S. (2021). *Role of cerium oxide nanoparticles in decreasing oxidative stress and developmental delays in Drosophila melanogaster as an in-vivo model for Bisphenol-A toxicity*. Chemosphere, 284, 131363. [10.1016/j.chemosphere.2021.131363](https://doi.org/10.1016/j.chemosphere.2021.131363)  **Jana N.,** Manojkumar N., Mishra J., Kole S., Bhattacharya A., Sarkar A., Dan P., Sheik Mohideen S. (2021). *Chronic exposure of environmental toxin Bisphenol-A to Drosophila melanogaster exhibits two distinct levels of exposure within vials.* Manuscript in preparation.  **Jana N.,** Sanchez R., Casiraghi L., de la Iglesia H., Harrington M., Leise T. (2021)  *Using mobile phone app activity records to teach students about biological rhythms.*  Manuscript in preparation. |
| Teaching Experience | |
| July 2021 | Teaching Assistant at Neuromatch Academy 2021, [Computational Neuroscience Summer School] |
| Presentations | |
| Jan 2020  Poster title  Feb 2019  Poster Title | 5th Asia Pacific Drosphila Research Conference (APDRC‘5), Pune  “Comprehensive study on the Bisphenol-A induced *Drosophila* model for Autism Spectrum Disorders with co-treatment by Cerium Oxide Nanoparticles and U0126 MAP Kinase inhibitor: genotoxicity, oxidative stress, apoptosis and behavioural irregularities.”  Accelerating Biology, 2019 (BRAF – CDAC), IISER-Pune  "Computing machinery and evolutionary survival" |
| Summer Schools | |
| Aug 2021  May 2020 - Aug 2020  July 2020 | NeuromatchAcademy: Deep Learning [Interactive]  Designed modified U-Net for *Drosophila* pose estimation with non-random initialization to  reduce extreme errors and imrpove prediction accuracy with reduced training  Society for Research on Biological Rhythms: Chronoschool 2020  Made custom tool to analyse App timestamps and peek into human *digital* behaviour  NeuromatchAcademy: Computational Neuroscience [Interactive]  Worked with Dr. Nick Steinzmetz’s Neuropixel data from 2AFC task to answer:  "How do task engaged mice fail certain trials?" |
| Conferences Attended | |
| Online  Dec 2021  July 2021  Oct 2020  July 2020  May 2020  Mar 2020 | 5th Indian Drosophila Research Conference (InDRC‘5), TIFR  International Conference on Chronobiology 2021, JNCASR and UC Davis  Neuromatch 3.0  Society for Developmental Biology, 79th Annual Meeting  Neuromatch 2.0, Neurizons2020 (9th, Biennial)  Neuromatch Unconference |
| Computing/Hardware related Skills | |
| Programming Languages | Python3/2.7, MATLAB and R  Attended Neurodata Without Borders Workshop to learn effective code sharing  Active member of a test-user group for TOPAS-MC and nBio: Monte-Carlo Simulation toolkits |
| Online Courses | |
| Neurosci  Chronobio  Python  MATLAB  Statistics and  Experiment Design  Game theory  Computation  Computer Vision | Computational Neuroscience – University of Washington, Seattle, Coursera  Medical Neuroscience – Duke University, Coursera (ongoing)  Visual Perception and the Brain – Duke University, Coursersa  Circaidan Rhythms: How Rhythms Structure Life – LMU Munich, Coursera  Applied Plotting, Charting & Data Representation in Python - UM, Coursera  Introduction to Data Science in Python – University of Michigan, Coursera  Google IT Automation with Python (5 part+project) – Google, Coursera  Introduction to Programming in MATLAB – Vanderbilt Univesity, Coursera  Practical Data Science with MATLAB – Mathworks, Coursera  Statistics with R (5 part + Project) – Duke University, Coursera  Inferential Statistical Analysis with Python – University of Michigan, Coursera  Bayesian Statistics: From concept to data analysis - UC Santa cruz, Coursera  Experimentation for Improvement – McMaster Univeristy, Coursera  Welcome to Game Theory – University of Tokyo, Coursera  Game Theory with Python – Coursera Project Network, Coursera  Computer Science: Algorithms, Theory and Machines - Princeton, Coursera  AWS computer vision: Getting started with GluonCV - AWS, Coursera  Computer Vision Basics – SUNY, UB, Coursera |