

EDUCATION

- **Ashoka University** Sonipat, India
Postgraduate Diploma in Advanced Studies and Research in Computer Science; Aug. 2021 – Present
- **Neuromatch Academy** Los Angeles, USA
Interactive Track, Computational Neuroscience Summer School Aug. 2020
- **Ashoka University** Sonipat, India
Bachelor of Science in Computer Science with a Minor in Biology; CGPA: 3.58/4.0 Aug. 2018 – May 2021

TOOLS AND FRAMEWORKS

- **Programming Languages:** Python, C, C++, R, Apps Script
- **Frameworks:** PyTorch, TensorFlow for Machine Learning; C#/.NET for Windows app development.
- **Other Tools:** GitHub, Selenium, Excel/G-Sheets, L^AT_EX, GIMP.

RESEARCH EXPERIENCE

- **Single Molecule Biophysics, Halder Lab, Ashoka University** Sonipat, India
Software Development Intern, Supervised by Dr. Debayan Gupta & Dr. Shubhasis Halder Dec. 2019 - Present
 - Building and improving covalent magnetic tweezers and associated software(s) for week-long single molecule force-clamp experiments.
 - Learnt protein extraction and purification methods over Summer, 2020.
- **Neuroethology Lab, Ashoka University** Sonipat, India
Undergraduate Research Assistant to Dr. Bittu K Rajaraman Sep. 2018 - Present
 - Studying call pattern generation and production in *Orthopterans* using a mixture of simulations, electrophysiological and behavioral exploration, to develop circuit models.
 - Assisting senior graduate students in conducting and designing behavioral assays.
 - Experienced in field work and animal maintenance.
 - Created a spike-sorting pipeline using SpikeInterface for two-channel neural data from electrophysiological explorations on bushcrickets.

WORK EXPERIENCE AND INTERNSHIPS

- **Alumni Relations Office, Ashoka University** Sonipat, India
Website & Database Administrator Mar. 2021 – Present
 - Manager of alumni databases and the alumni web portal, with 1500+ active users.
 - Supervised interns over summer 2021 to clean data and expand existing database by scraping 980+ LinkedIn profiles to collect and organize data on all existing alumni.
- **The Neuroscience Outreach Network** Princeton, NJ, USA
Community Outreach & Content Coordinator Aug. 2020 – Jan. 2021
 - Project aimed at enabling access to education in neuroscience to students in underserved communities around the world.
 - Tailored virtual/classroom lessons and material for individual grade levels.
- **DiverseNeuro.org** Multiple locations, India
Co-Founder Jun. 2020
 - A collaborative research venture between IISER Pune and Ashoka University
 - Study on the international academic demographic in neuroscience, aimed at informing inclusive policy-making in academia.

PROJECTS

- **Capstone Project - Data Compression Using Deep Probabilistic Models (2021):** Ongoing project under the supervision of Dr. Mahavir Jhavar and Dr. Subhashish Banerjee, on methods to incorporate deep latent variable models into source coding for image and video data compression.
- **Classifier Rules for the Majority Problem (Spring 2021):** Simulated all elementary automata, studied its statistical mechanics and applications in solving the majority problem (a density classification task), both theoretically and as a proposed model to explain the less understood phenomenon of stomatal patchiness.
- **Efficient Face-Mask Detection for Syndromic Surveillance (Monsoon 2020):** Built an efficient face-mask detection tool suitable for cheap computation such as on mobile phones, webcams or CCTV cameras, so as to allow for real-time feedback into disease dynamics models.
- **Prediction of Erroneous Decision Making (Summer 2020):** Decoded neural data from Steinmetz, et. al, 2019, to predict erroneous decision making in trained mice. Used a GLM to predict whether the performance of trained mice that performed well in an 2-AUC experimental paradigm was affected by previous erroneous decisions. Project mentor: Dr. Adrien Peyrache, McGill University.
- **Modelling Call Pattern Generation in Bushcrickets (Spring 2019):** Exploratory project on call pattern generation in crickets and mechanistic models of neurons, particularly the Morris-Lecar 2-neuron model.

TEACHING

- **Teaching Assistant**
 - Dept. of Computer Science, Ashoka University
 - **Introduction to Machine Learning** (Monsoon 2021), Dr. Subhashish Banerjee; Class size: 70+; Ongoing; Tasks: holding weekly office hours, setting and grading all assignments, facilitating data collection for Ashoka's Faces Dataset (under preparation).
 - **Algorithms Design and Analysis** (Spring 2020), Dr. Subhash Bhalla; Class Size: 70; Student Feedback: 4.46/5; Tasks: holding weekly office hours, setting and grading all assignments.
- **Teaching Assistant**
 - Summer School, Neuromatch Academy (Online)
 - **Deep Learning Course** (Summer 2021), Content by various professors from around the globe; Led 7-14 international UGs and Ph.Ds selected to participate in the *Interactive Track* of the programme; Led daily discussion sessions, taught deep learning tools from ground up on PyTorch, provided support to complete projects.

AWARDS AND SCHOLARSHIPS

- 100% Scholarship on Tuition and Residence, Ashoka University
- Merit Award for *Enriching Campus Culture* in 2019, as President of Vistaar, Ashoka University
- Merit Award for *Enriching Campus Culture* in 2018, as a columnist for Kalinga Magazine, Ashoka University

LEADERSHIP AND EXTRA-CURRICULARS

- **Advisor, Women in Computing Society**
 - Ashoka University *Sep. 2021 – Present*
 - Head, *WiCS Workshop Weekends*; Member since 2018.
 - Led 2 *WiCS Annual Cryptic Hunts*, our flagship event.
- **Student Representative, Dept. of Computer Science**
 - Academic Advisory Board, Ashoka University *Sep. 2020 – May 2021*
 - Selected by the Head of Department, Dept. of Computer Science.
 - Served as primary coordinator for all student-department communication.
- **President, Vistaar**
 - The Music Society, Ashoka University *Sep. 2019 – Jan. 2020*
 - Implemented structural and policy-based changes that revived the society and allowed it to develop into an inclusive creative space for all types of musicians.
 - Organized 10+ events and oversaw 4+ performing teams