Shweta Prasad, M.Sc

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EDUCATION

2022 – 2024 M.Sc in Neural and Behavioural Sciences, University of Tübingen, Germany (Advisor: **Prof. Dr. Andreas Nieder**)

2021 – 2022 Post-Graduate Diploma in Advanced Studies and Research in Computer Science, Ashoka University, India (Advisors: **Dr. Mahavir Jhawar** and **Dr. Subhashish Banerjee**)

2018 – 2021 B.Sc in Computer Science with a minor in Biology, Ashoka University, India

EMPLOYMENT

2026 – 2027 Research Assistant, University of Nottingham, United Kingdom
Advisor: **Dr. Mark Humphries**
Topic: Modeling human and rodent leave/stay decisions in patch-foraging tasks

2024 – 2026 Research Assistant, Center for Integrative Neuroscience, Tübingen, Germany
Advisor: **Prof. Dr. Ziad M. Hafed**
Topic: Using extracellular action-potential waveform shapes to characterize functionally different classes of neurons in the primate superior colliculus and primary visual cortex

RELEVANT RESEARCH EXPERIENCE

2023 – 2024 **Decision making in carrion crows**, *Nieder lab*, Inst. Neurobiology, Tübingen
Supervised by **Prof. Dr. Andreas Nieder**

FELASA certified, and approved to handle oscine birds.

Lab rotation: Trained 2 crows to perform a global-motion-angle categorization task, analyzed their behaviour and perceptual decision-making ability.

Master's thesis: Designed, and trained 2 crows on a temporal wagering task to evaluate waiting time as a putative behavioural correlate for decision confidence in crows.

2023 **Serotonin in patience**, *Dayan lab*, MPI for Biological Cybernetics, Tübingen
Supervised by **Dr. Kevin Lloyd**

Lab rotation: Evaluated an average reward reinforcement learning model of how serotonin my be modulating an animal's willingness to wait ('patience') in interval timing tasks.

2018 – 2022 **Orthopteran neuroethology**, *Neuroethology lab*, Ashoka University
Supervised by **Dr. Bittu K Rajaraman**

Studied call pattern generation and song production in endemic katydids (*Onomarchus uninotatus* from the Western Ghats, and morphs of *Mecopoda* from Garo, India) and used a mixture of simulations, electrophysiological and behavioural experiments, to develop circuit models.

Gained field-work (Coorg forests and jackfruit plantations in the Western Ghats, India) and animal maintenance expertise.

SCHOLARSHIPS AND HONORS

2024	Fully funded to attend the Rewilding Ethology Workshop at the Center for the Advanced Study of Collective Behaviour (CASCB), Konstanz
2022 – 2024	Scholar, IMPRS for the Mechanisms of Mental Function and Dysfunction (IMPRS MMFD); M.Sc funded by the MPI for Biological Cybernetics and the University of Tübingen
2018 – 2022	Full scholarship (Tuition and Residence) to attend Ashoka University

PUBLICATIONS

[*In preparation*] **Prasad, S.**, Malevich, T., Yu, Y., Baumann, M. P., Zhang, T., Hafed., Z. M. (2026) Functional cell-type classification based on extracellular spike waveform shapes in the macaque superior colliculus and primary visual cortex.

Trottenberg. C., Yu, Y., Zhang, T., Baumann, M. P., Malevich. T., **Prasad, S.**, Hafed, Z. M. (2025) Much higher covariation with foveation timing by superior colliculus than primary visual cortical neuronal activity. *iScience*, DOI: 10.1016/j.isci.2026.115432

Theses:
Master's thesis (2024) Waiting time as a behavioural correlate for decision confidence in a carrion crow.
Bachelor's thesis (2022) Combining Asymmetrical Numerical Systems based codecs and probabilistic models for efficient, near-lossless compression of videos.

CONFERENCES, WORKSHOPS, SUMMER SCHOOLS

Attendee

2026	**European Conference on Eye Movements**, Ulm [Poster]* **Primate Neurobiology Meeting**, Tübingen [Poster]* **Zürich-Münich-Tübingen Oculomotor and Vestibular Meeting**, Bern [Talk]*
2025	**Gordon Research Conference on Eye Movements**, Massachusetts [Poster]*
2024	**Rewilding Ethology Workshop**, Konstanz Organized by the Max Planck Institute for Animal Behaviour and the CASCB
2021	**Computational Neuroscience Summer School, Neuromatch Academy** Project: Does making an error predict increased error rates in sequential decision-making in mice? (Supervised by Dr. Adrien Peyrache)

Organizer

2025	**Animal Tracking Workshop**, Tübingen Collaboration between the IMPRS MMFD and the CASCB, teaching post-doctoral and doctoral students TRex – a software for simultaneous tracking of large collectives of animals

*Posters and talk titled *Classifying extracellular action potential waveform shapes in the rhesus macaque superior colliculus and primary visual cortex*

TEACHING

Winter 2023	**Neurobiology Practical**, Dept. of Neurobiology, University of Tübingen Instructor: **Dr. Stephanie Westendorff**; Class size: 25; Role: Assisting undergraduate students in conducting electrophysiological exploration of ground cricket auditory responses

Winter 2023	**Sensory Systems I: The Auditory and Vestibular Systems** GTC of Neuroscience, University of Tübingen Role: Bi-weekly tutorials for graduate students of the programme
Spring 2022	**Theory of Computation**, Dept. of CS, Ashoka University Instructor: **Dr. Soumyottam Chatterjee**; Class size: 25; Feedback: 4.5/5; Role: Weekly office-hours, setting and grading all assignments
Summer 2021	**Deep Learning**, Neuromatch Academy (MOOC) Role: Daily discussion sessions, introducing PyTorch, step-by-step assistance in course material provided by NMA, project support for a pod of 7-14 students
Monsoon 2021	**Introduction to Machine Learning**, Dept. of CS, Ashoka University Instructor: **Dr. Subhashish Banerjee**; Class size: 68; Feedback: 4.43/5; Role: Weekly office-hours, setting and grading all assignments, facilitating data collection for *Ashoka's Faces Dataset* for in-class assignments
Spring 2020	**Algorithms Design and Analysis**, Dept. of CS, Ashoka University Instructor: **Dr. Subhash Bhalla**; Class size: 70; Feedback: 4.46/5; Role: Weekly office-hours, setting and grading all assignments

LEADERSHIP AND OUTREACH

2023 – 2024	Elected Student Representative, IMPRS MMFD
2022 –	Mentor, Ashoka University Wxmen in STEM
2020 – 2021	Selected Student Representative of the Dept. of Computer Science, and Academic Advisory Board member, Ashoka University
2018 – 2022	Women in Computing Society (WiCS), Ashoka University Roles: Advisor (2022), Head of *WiCS Workshop Weekends*, Head of *WiCS Annual Cryptic Hunts* (puzzle-making, app-building, web-hosting, database management)
2020 – 2021	Content coordinator, The Neuroscience Outreach Network, Princeton NJ

TOOLS AND FRAMEWORKS

Operating Systems: UNIX (Linux, MacOS), Windows
Programming Languages: MATLAB, Python, C, C++, R
Natural Languages: English, Hindi, Malayalam
Frameworks: PyTorch, TensorFlow, sklearn for ML; C#/.NET for Windows app development
Behavioural-experimental Control: CORTEX, PsychoPy and Pavlovia
Graphics Tools: Inkscape, Illustrator, GIMP
Other Tools: GitHub, Selenium, Excel/Sheets, LaTeX