Soumya Kaim

Nationality: Indian ✉ **Email address:** soumyakaim123@gmail.com

WORK EXPERIENCE

Project manager

DeepOrigins [19 Aug 2021 – 11 Jun 2022]

City: Vadodara | **Country:** India

Managed a team of over 15 clinical psychology interns for 5 months at DeepOrigins. Reviewed and delegated work for conducting complementary psychotherapy sessions and assessments.

Team leader

Igniting Young Minds [19 Sep 2016 – 12 Apr 2019]

City: Delhi | **Country:** India

Worked extensively with orphans, elderly, and shelter home residents at Unique Psychological Servies (UPS) and whilst volunteering for Leaders for Tomorrow (LFT), Igniting Young Minds (IYM) and World Wild Life Fund for Nature (WWF) over a span of **3 years**. Volunteered to teach and mentor children from underprivileged backgrounds at Igniting Young Minds (IYM), adapting teaching methods to suit different learning needs.

Student Council

University of Groningen [10 Oct 2022 – 31 Aug 2023]

City: Groningen | **Country:** Netherlands

Organized student events for socializations between different tracks of the BCN masters course.

Programme Committee Member

University of Groningen [15 Aug 2022 – 30 Jul 2023]

City: Groningen | **Country:** Netherlands

Critically evaluated courses from BCN C track cluster for improving the learning experience and outcome for students.

Clinical psychology internship

National Forensic Sciences University [1 Feb 2021 – 30 May 2021]

City: Ahmendabad | **Country:** India

Took initiative in conducting case history and mental status examinations for **10+ patients** in Acute and Chronic Wards at the Hospital of Mental Health, Ahmedabad.

Guest speaker

Narsee Monjee College of Commerce and Economics [11 Aug 2021 – 11 Aug 2021]

City: Mumbai | **Country:** India

Engaged with diverse audiences, including delivering a **guest lecture** on Animation and Psychology to VFX students at Narsee Monjee College of Commerce and Economics.

EDUCATION AND TRAINING

Bachelor in Arts (Hons) in Applied Psychology

University of Delhi (SPMC) [12 Jul 2016 – 10 May 2019]

City: Delhi | **Country:** India | **Website:** https://spm.du.ac.in/index.php?lang=en | **Level in EQF:** EQF level 6

Masters of Science in Clinical Psychology

National Forensic Sciences University [10 Sep 2019 – 9 May 2021]

City: Gandhinagar | **Country:** India | **Website:** https://www.nfsu.ac.in/ | **Level in EQF:** EQF level 7

Masters of Science in Behavioural and Cognitive Neuroscience

University of Groningen [1 Sep 2022 – Current]

City: Groningen | **Country:** Netherlands | **Website:** https://www.rug.nl/ | **Level in EQF:** EQF level 8

LANGUAGE SKILLS

Mother tongue(s): Hindi

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C2

SPOKEN PRODUCTION C2 **SPOKEN INTERACTION** C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Microsoft Office / Social Media / Microsoft Word / Microsoft Excel / SPSS / Qualtrics / PsychoPy / EEGLAB / Python / JASP / E-Prime / EEG / fNIRS / R / LaTex: used for documents preparation (e.g. reports and presentations). / BioRender and Canva (Scientific illustrations) / Paint / Paint 3D / Drosophila Melanogaster / sleep / Behavioural assay

PUBLICATIONS

[2023]

The human neuropsychiatric risk gene Drd2 is necessary for social functioning across evolutionary distant species
The human neuropsychiatric risk gene Drd2 is necessary for social functioning across evolutionary distant species (Ike at al., 2023) (Molecular Psychiatry)
https://doi.org/10.1038/s41380-023-02345-z

·Developed custom python script for analysis of social interaction 500 minutes of over 50 samples.
·Planned and managed the collection and recording of flies for the experiment.

Ike, K.G.O., Lamers, S.J.C., Kaim, S. et al. The human neuropsychiatric risk gene Drd2 is necessary for social functioning across evolutionary distant species. Mol Psychiatry 29, 518–528 (2024). https://doi.org/10.1038/s41380-023-02345-z

HONOURS AND AWARDS

[30 Jul 2018] Unique Psychological Society
Best Intern award
Best Intern award at Unique Psychological Society for excellent performance at Clinical Psychology Internship.

[15 Jun 2017] Delhi Municipal Community
Letter of Appreciation
Received two **Letter of Appreciation** each from Delhi Municipal Community for Social Work.

PROJECTS

[1 Feb 2024 – Current]
Sensorimotor confusion and loudness of voices in healthy adults: An EEG Study
Sensorimotor confusion and loudness of voices in healthy adults: An EEG Study
Supervisors: Dr. Curcic-Blake (BSCS, UMCG)
Major Thesis (ongoing)
·Piloted an EEG/fNIRS study to study robot induced sensorimotor confusion where responsibilities included developing the optimum auditory stimuli, the experiment logistics and timeline, collecting EEG and fNIRS data to troubleshoot any every issue with the systems as well as the robot's interference with the signals.
·Developed custom python scripts for data management and data analysis for both behavioral data (false positive rate, accuracy and precision) and EEG (automate preprocessing, feature extraction, and statistical analysis, contributing to the reproducibility and scalability of research findings).

Link: https://www.youtube.com/watch?v=MqRJcToifc4

[1 Feb 2023 – 29 Jul 2023]
Genetic Variation Influences Social Interaction and Sleep Need in Drosophila melanogaster
Genetic Variation Influences Social Interaction and Sleep Need in *Drosophila melanogaster*
Supervisors: Dr. J-C Billeter (PI) and Adithya Sarma (PhD supervisor) (GELIEFS)
Grade: 8.5/10
Minor Thesis (July 2023)
·Canton-S (CS) and Oregon-R (OR) strains were used to record **1638 hrs (68days)** of free movement in custom social arena.
·**5+ Custom python scripts** were developed for analyzing social interaction, sleep and locomotion in addition to using TREX and GraphPad Prism.
·Key findings include that CS flies had 27.39% more interactions and 34.5% higher sleep compared to OR flies in grouped condition. Both social interactions and sleep were 9.8% lower during light phase as compared to dark phase. There was no significant difference in locomotion between grouped and isolated flies for both the strains.

Link: https://www.youtube.com/watch?v=0UUdjT7VhCQ

[1 Jan 2021 – 14 Jul 2021]
Assessment of Response Inhibition, Impulsivity and Handedness to Emotional Faces and Scenes: An EEG/ERP Study (A Systematic Review)
Assessment of Response Inhibition, Impulsivity and Handedness to Emotional Faces and Scenes: An EEG/ERP Study (A Systematic Review)
Supervisor: Dr Proshanto Kr Saha (IBS)
Grade: 8/10
Master's Dissertation (July 2021)
·Conducted a qualitative review of literature on how impulsivity and response inhibition and handedness are affected by emotional faces and scenes when investigated by EEG/ERP paradigm.

[1 Jan 2019 – 15 Jul 2019]

Alexithymia and Substance Abuse: A Study on Prevalence and its Relationship with Anxiety, Adjustment, Self-esteem and Locus of Control

Supervisor: Dr Virendra Pratap Yadav

<u>*Grade: 9/10*</u>

Bachelor's Dissertation (July 2019)

·Collected psychometric data on various questionnaires from 150 healthy and clinical populations.

·There was a significant difference in alexithymia in the two groups.

VOLUNTEERING

[15 Sep 2016 – 10 May 2019] Delhi

Volunteer Teaching

Worked extensively with orphans, elderly, and shelter home residents at Unique Psychological Services (UPS) and whilst volunteering for Leaders for Tomorrow (LFT), Igniting Young Minds (IYM) and World Wild Life Fund for Nature (WWF) over a span of **3 years.**

COMMUNICATION AND INTERPERSONAL SKILLS

National Cadet Corps (NCC) Training (2016–2019)

Completed **basic military training** in small arms, drills, and tactical exercises.

Led and participated in **two CATC camps**, developing skills in leadership, resilience, and adaptability in a team of 100+ cadets.

Poster Presentation

Participated in poster presentation at the **Summer Symposium** at University of Groningen (2023).

Demonstrated strong analytical skills in interpreting research data and drawing meaningful conclusions.

<p align="center">**Letter of Motivation** - MSCA Doctoral Network "VoCS" (DC1, DC2 and DC7)</p>

Dear Members of the VoCS Admissions Committee,

Understanding how the brain processes sound is central to both human communication and the evolution of vocal perception across species. My fascination with the neural circuits underlying auditory processing stems from the fundamental question: *How does the brain translate acoustic signals into meaningful concepts, and how do these perceived signals differ across species and artificial agents?* Initially, I was skeptical of the assumptions made in animal studies about human auditory cognition. However, my minor thesis on *Drosophila* social interactions challenged this skepticism. Immersing myself in the methodologies of behavioral neuroscience, I came to appreciate the rigor with which cross-species insights are established. This experience, combined with my research in auditory neuroscience, has shaped my commitment to studying the neurocognitive processing of auditory signals and contributing to translational neuroscience. The VoCS network presents an opportunity to expand this work, particularly in DC1, DC2, and DC7, where I can investigate how biological and artificial systems process vocal communication.

My academic training aligns directly with the project's objectives. I have expertise in auditory neuroscience, programming (Python, R, LaTeX), and neuroimaging, and I have hands-on experience working with biological signal processing techniques. In my Master's program, I designed EEG paradigms and performed spectral analysis of auditory evoked potentials to examine real-time auditory prediction errors. In addition to EEG, I have a strong theoretical grasp of fMRI methodologies from my coursework on *Functional Neuroscience: C-Track*, particularly signal preprocessing, statistical modeling, and pattern decoding, skills that are central to investigating shared and diverging networks for human and artificial voice processing. During my minor thesis on social behavior in *Drosophila*, I created Python pipelines to classify social interactions from video data, demonstrating adaptability in cross-species research—a precursor to studying mammalian vocalizations.

Furthermore, my interest in voice communication science extends beyond EEG and fMRI. During my coursework on *Biological Basis of Behavior*, I extensively studied how vocalization patterns serve as behavioral and neural markers across species. This included acoustic analysis of vocalization cues in different species using PRAAT, which equipped me with skills in phonetic and prosodic analysis relevant to synthetic speech processing. I am particularly excited to apply this knowledge to explore perceptual correlates of voice naturalness and contribute to experimental paradigms examining normal-hearing vs. hearing-impaired populations.

Collaboration is a defining aspect of my research experience. I have worked in interdisciplinary teams across India and the Netherlands, integrating psychology, neuroscience, and computational modeling. For example, I contributed to a publication (DOI: 10.1038/s41380-023-02345-z) on the evolutionarily conserved role of the Drd2 gene, where I applied quantitative methods to analyze social behavior dynamics. These skills will be valuable in working with multimodal datasets in the VoCS network and collaborating with teams at the University of Oslo, Universidad Pompeu Fabra, and Cochlear Ltd. Additionally, I look forward to working in international secondments, as I have experience navigating the complexities of new environments as well as multicultural teams during my studies in two very culturally different and diverse cities.

The VoCS projects (DC1, DC2, and DC7) align deeply with my research background and career aspirations. Project DC1 (Oslo) builds on my expertise in EEG and fMRI to examine neural processing of scream calls and rough sounds across species, aligning with my previous work on social interactions and auditory signal analysis. Project DC2 (Aix-Marseille) connects to my computational neuroscience background, where I have modeled auditory perception and analyzed phonetic characteristics of speech signals, making me well-suited to study artificial voice prosody and social competence in human-robot interactions. Finally, Project DC7 (Jena) directly relates to my Master's thesis on sensorimotor prediction errors in auditory perception, where I used EEG to study auditory processing dynamics. My experience in neurophysiological and behavioral paradigms, combined with my expertise in computational modeling and signal processing, equips me to contribute meaningfully to these projects and to the broader VoCS network.

Beyond the immediate research goals of these projects, I am particularly drawn to VoCS because of its translational potential. Studying how the brain processes voice signals is not just an academic endeavor but a crucial step toward improving speech synthesis, aiding hearing-impaired individuals, and advancing human-robot interaction. The prospect of contributing to a field that bridges fundamental neuroscience with real-world applications is deeply motivating for me. I see this PhD as a chance to refine my expertise in auditory neuroscience, while also contributing to meaningful advancements in translational research.

I look forward to the opportunity to join the VoCS network and contribute to the scientific advancement of voice perception research. Thank you for your time and consideration.

Thank you for considering my application.

Sincerely,
Soumya Kaim
Groningen, Netherlands
soumyakaim123@gmail.com

Contact Details of the Referees

1. Dr. Jean-Christophe Billeter

Faculty of Science and Engineering
Telephone: +31 50 36 37851
E-mail: j.c.billeter@rug.nl

My supervisor for my minor project from Feb 2023 ~ July 2023.

2. Dr. Mark R. Nieuwenstein

Faculty of Behavioural and Social Sciences
Telephone: +31 50 36 36754
E-mail: m.r.nieuwenstein@rug.nl

My track coordinator, professor for two courses (Models of Cognition and Cognitive Neuroscience 1), as well as the grader for my symposium presentation.