

Maansi Desai, Ph.D.

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EDUCATION	Ph.D. in Speech, Language, and Hearing Sciences: Auditory and Computational Neuroscience 2018 - 2023 The University of Texas at Austin, USA. Recipient of \$29,000 in scholarship funding from UT Austin and multi-time winner of \$2500 in grant funding from the Texas Speech Language and Hearing Foundation.
	M.A. in Communication Sciences and Disorders 2018 - 2020 The University of Texas at Austin, USA
	B.M. in Music (Piano Performance) 2011 - 2015 University of California, Santa Barbara, USA
EXPERTISE	Human electrophysiology, signal processing, machine learning (system identification, supervised learning), statistical analysis, grant writing, experimental design, clinical data collection.
WORK EXPERIENCE	The University of Texas at Austin 2023 – Present Postdoctoral Fellow <ul style="list-style-type: none">Using feature extraction and system identification techniques (linear encoding and decoding models) to investigate the acoustic, phonetic, and visual processing of speech, audiovisual information, and other natural sounds in the brains of children and adults with drug resistant epilepsy using intracranial recordings.Supervising one PhD student and one medical student. The University of Texas at Austin 2018-2023 Graduate Research Assistant <ul style="list-style-type: none">Executed experimental design, data collection, and analyzed brain responses of scalp EEG and intracranial electrophysiology data using statistical analysis and machine learning. Published 4 journal papers, 10 conference presentations, 3 research talks, and managed 6 undergraduates. Meta Inc. 2021-2022 Research Intern, Hearing Science and Auditory Perception (PhD) – 6 months <ul style="list-style-type: none">Led the first human neuroscience electrophysiology task and system development.Implemented linear classification methods using machine learning for auditory attention decoding.Resulted in 1 patent application.
SKILLS	Programming languages: Python (proficient), MATLAB (proficient), Bash (proficient), Swift (familiar)
SELECTED RESEARCH PROJECTS	Generalizable EEG/sEEG responses using naturalistic audiovisual stimuli <ul style="list-style-type: none">Utilized linear encoding models and statistical analysis to validate the use of naturalistic audiovisual movie clips as an experimental paradigm to model speech and multisensory information using scalp- EEG and stereo-electroencephalography (sEEG). Results published in the <i>Journal of Neuroscience</i>. Dataset size considerations for natural speech experiments using EEG <ul style="list-style-type: none">Used Monte-Carlo cross-validation analysis and linear encoding model to assess the amount of testing and training data needed for different types of natural speech experiments for electrophysiological recordings. Results published in <i>Frontiers for Human Neuroscience</i>.
SELECTED PUBLICATIONS (Google Scholar)	Published: 9 peer-reviewed journal/conference papers <ul style="list-style-type: none">Desai, M., Holder, J., Villarreal, C., Clark, N., Hamilton, L.S. Generalizable EEG encoding models with naturalistic audiovisual stimuli. <i>Journal of Neuroscience</i>. 41.43 (2021): 8946-8962.Shirvalkar, P., Prosky J., Chin, G., Ahmadipour, P., Saßni, O.G., Desai, M., Schmitgen, A., Dawes, H.E., Shanechi, M.M, Starr, P.A, Chang E.F. First-in-human prediction of chronic pain state using intracranial neural biomarkers. (2023). <i>Nature Neuroscience</i>, 6(6), 823-836.
PATENTS	1 pending patent from internship at Meta Inc. <ul style="list-style-type: none">Desai, M., Ihlefeld, A., Khaleghimeybodi, M., Kota, S., Balsam, N.K. 2023. Real-time in-ear electroencephalography signal verification. US Patent 17/714,971, filed October 12, 2023.