

MANASH SAHOO

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EDUCATION

Psychology B.S. Indiana University-Bloomington

Fall 2020

SKILLS

Programming MATLAB, Python, R, Julia, Javascript, HTML/CSS, Bash, SQL, HTSQL

EXPERIENCE

Data Scientist

September 2023 - Current

Borjon Lab, University of Houston,

Texas Institute for Measurement, Evaluation, and Statistics

Houston, TX

- Used MATLAB and Python to engineer various data processing pipelines for an open-source autonomic measurement vest
- Used machine-learning and signal processing techniques to understand caregiver prosody and its relationship to infant sustained-visual attention (SVA)
- Attended and participated in lab meetings where lab members discussed particular subjects within child development research, statistics, and computer science

Simons Fellow in Computational Neuroscience

August 2021 - June 2023

Emory University, Children's Healthcare of Atlanta, Marcus Autism Center

Atlanta, GA

- Used linear mixed-effects models to understand how various vocal features like pitch, audio-visual synchrony, and rhythmic variability influence eye-gaze during infant-directed speech and song in typically-developing infants and those later diagnosed with ASD
- Used MATLAB, Python, R, and HTSQL to create large-scale pipelines that categorize patients based on diagnosis, age, clinical severity, and other factors
- Attended and participated in lab meetings where lab members discussed particular subjects within statistics, child development, and autism research

Undergraduate/Postbaccalaureate Research Assistant

December 2019 - May 2021

Smith Cognitive Development Lab

Bloomington, IN

- Used various machine learning and signal processing techniques to characterize moments of fundamental frequency in infant-directed speech
- Used an in-house built autonomic vest to measure cardio-respiratory activity during experiments. Used MATLAB and Python to extract, pre-process, and analyze data using signal processing techniques. Presented findings and methods during lab meetings
- Used Python and crowd-sourcing techniques with Amazon Mechanical Turk to investigate the low-level visual scene statistics that influence early infant vision

PROJECTS AND PUBLICATIONS

Infant-directed song potentiates infants' selective attention to adults' mouths over the first year of life (Publication, Co-Author) Investigated how low-level visual and auditory characteristics of infant-directed speech and song influence eye-gaze ([link](#))

Identifying common phrase-level pitch contours in natural infant-directed speech

(Poster) Used dynamic time warping (DTW), hierarchical clustering, and dimension-reduction to identify phrases of infant-directed speech that followed similar trajectories of pitch ([link](#))

SigSync: A free GUI-based application for the synchronization of multi-modal datasets

(Poster, Software) Used the MATLAB GUI Designer to create an application that can synchronize video to multiple time-series ([link](#))