Aidan Seidle

Speech, Language, and Hearing Sciences, Purdue University
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(970) 294-2768

EDUCATION

University of California, Los Angeles, Los Angeles, CA 2021 - 2024
Bachelors of Science, Cognitive Science
Specialization in Computing
Music Industry Minor
GPA 3.84

RESEARCH & PROFESSIONAL EXPERIENCE

Purdue University West Lafayette, IN
Principal Investigator: Malinda McPherson-McNato, Ph.D. 2024 - Present
Research Associate/Lab Manager

- Preferences and perceptual differences across individuals
  - Recruited participants, prepared, and ran experiments with both adults and children (ages 3-10), both online and in person
  - Analyzed data in MATLAB to compare various psychoacoustic abilities and responses to a variety of sounds in preference and active vocal response studies
- Model-brain alignment of auditory neural networks
  - Collected online behavioral and neural network data to evaluate biological plausibility of auditory neural networks

University of California, Los Angeles Los Angeles, CA
Principal Investigator: Barbara Knowlton, Ph.D. 2023 - 2024
Research Assistant

- Drift diffusion modeling of perceptual learning in different loci
  - Prepared participants with consent, safety, and financial paperwork
  - Conducted fMRI scans to explore implicit learning of Bayesian priors and their effect on perceptual decision-making
  - Analyzed data using drift diffusion models in Python to derive predictions of brain activation

Duffl Los Angeles, CA
Manager and Data Analyst 2023 - 2024

- Built an NLP model to interpret customer feedback giving a comprehensive understanding of team successes and areas for improvement
- Managed large dynamic database and conducted statistical evaluation of key performance indicators for delivery driver workforce

- Navigated complex scheduling and supply chain needs to budget for 3,500 weekly orders with $40,000 of weekly revenue with a team of 50+ direct employees in a management position

CONFERENCE PROCEEDINGS

Seidle, A.J., Feather, J.*, McPherson-McNato, M.J*. (2025). Training on Ecologically Relevant Tasks Improves Alignment Between Artificial Neural Network and Human Similarity Judgements, *8th Annual Conference on Cognitive Computational Neuroscience*. *co-senior authors

PREPRINTS & UNDER REVIEW

M.J. McPherson-McNato, E. A. Undurraga, M. Poblete, S. Rojas, R. Zariquiey, **A.J. Seidle**, B. Medina, J.H. McDermott, Aversion to screechy sounds varies with exposure to industrialized environments. Under Review.

CONFERENCE POSTERS

Aidan J. Seidle, Feather, J., McPherson-McNato, M.J. (August 2025). Training on ecologically relevant tasks improves alignment between artificial neural network and human similarity judgments. *Cognitive Computational Neuroscience, 2025*. Amsterdam, Netherlands.

Stephanie Wert (presenting author), **Seidle, A.J.**, Rissman, J., Knowlton, B. (August 2025). The temporal evolution of implicit bias in perceptual decision-making. *Cognitive Science Society, 47th Annual Meeting,* San Francisco, CA.

Aidan J. Seidle, McPherson, M.J., Undurraga, E., McDermott, J.H. (February 2025). Cross-culturally shared sensitivity to harmonic structure underlies aspects of pitch discrimination. *Association for Research in Otolaryngology, 48th Annual MidWinter Meeting,* Orlando, FL.

INVITED TALKS

Purdue University, Department of Speech, Language, and Hearing Sciences Weekly Seminar — Dec 2025
Translational Importance of Biological and Artificial Neural Network Alignment

Purdue University, Department of Speech, Language, and Hearing Sciences Hearing Seminar — May 2025
Using Psychophysics and Neural Networks to Explore Auditory Representations

TEACHING & ADVISING EXPERIENCE

Advising

Naomi White, McPherson Auditory Perception Lab, Purdue Audiology Student — 2025

Teaching

Purdue University, Department of Speech, Language, and Hearing Sciences Hearing & Music Perception — 2025

SKILLS

Expert: Python (pandas, numpy, matplotlib), MATLAB, HTML/CSS, Jupyter/Jupyter Notebook, PsychoPy, Anaconda, Audio Hardware
Proficient: C++, JS, TensorFlow, PyTorch, PHP
Experience: R, Hardware Implementation (Arduino, soldering, 3D Printing)

RELEVANT COURSES

UCLA
PIC 10A - Introduction to Programming (C++)
PIC 10B - Intermediate Programming (C++)
PIC 16A - Python with Applications I
PIC 16B - Python with Applications II
PSYCH 100A - Psychological Statistics
PSYCH 100B - Research Methods in Psychology
PSYCH 119V - Brain and Art
PSYCH 120A - Cognitive Psychology (Perception Systems)
PSYCH 186A - Cognitive Science Laboratory: Introduction to Theory and Simulation
PSYCH 186B - Cognitive Science Laboratory: Neural Networks
PSYCH 186C - Psychophysical Theories and Methods (Signal Detection Theory)
PSYCH 196B - Research Apprenticeship in Cognitive Science
NEUROSC 17 - Science of Music
MUSIC INDUSTRY M103 - Music, Mind, and Brain
MUSIC INDUSTRY 155 - Music and Data Science
MUSIC INDUSTRY 107A - Engineering and Production Fundamentals

PURDUE
SLHS 30200 - Hearing Science (Audit)
SLHS 50400 - Auditory Periphery (Audit)
MA 26500 - Linear Algebra (Audit)
STAT 51100 - Statistical Methods (Audit)

REFERENCES

Dr. Malinda McPherson-McNato
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Dr. Barbara Knowlton
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Dr. Mark Tramo
mtramo@ucla.edu (310) 206-3033