

Brandon J. Carone

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EDUCATION

New York University | New York, NY

September 2021 – May 2026

PhD in Cognition and Perception | Dean's Doctoral Fellow

Relevant Coursework: Auditory Perception, MIR, Computational Cognitive Modeling, Signal Processing, Deep Learning

University of California, Los Angeles | Los Angeles, CA

September 2015 – May 2019

B.S. in Cognitive Science, Specialization in Computing | Departmental Honors

SKILLS

Programming: Advanced: Python, R, MATLAB | Intermediate: C++, Java, HTML | Basic: SQL

Perceptual Evaluation: psychoacoustics, human-subject listening studies, inferential statistics, survey design

AI/ML: PyTorch, TensorFlow/Keras, scikit-learn, statistical modeling, multimodal LLM evaluation, reproducible analyses

Audio & MIR: librosa, essentia, madmom, audio/text pipelines, audio embeddings, retrieval, perceptual similarity, basic DSP

RELEVANT EXPERIENCE

LoveMind AI, Remote

May 2026 – Present

Research Consultant, Human-Centered AI & Audio Evaluation

- Advise research on audio/music evaluation strategy for multimodal LLM projects, including benchmark design, study controls, and methods for separating audio-grounded perception from text-only inference and pre-training priors.
- Synthesize research on multimodal AI, music emotion recognition, listener preference, MIR, and affective computing into actionable recommendations for experimental design, dataset creation, and model-evaluation workflows.

Music and Audio Research Laboratory (MARL) / Ripollés Lab (NYU), New York, NY

September 2021 – May 2026

Graduate Researcher | PI: Dr. Pablo Ripollés

- Created the [MUSE Benchmark](#), a human-grounded perceptual audio evaluation framework with 10 controlled listening tasks spanning pitch, melody, rhythm, harmony, and timbre; composed/recorded 200 original stimuli, collected human data from N=200 listeners, and evaluated four SoTA audio-capable AI systems to identify perceptual failure modes.
- Built reproducible evaluation pipelines for MUSE and related experiments, including standardized audio presentation, fixed prompting, repeated model runs, deterministic parsing, metadata logging, and F1 scoring to maintain clean datasets and support regression-style comparisons across models, human listeners, tasks, and experimental conditions.
- Developed [SoundSignature](#), a user-facing MIR+LLM web app that extracts acoustic and perceptual features from music to generate personalized music-preference insights with a custom chatbot; evaluated the system with a mixed-methods pilot study and refined explanations, UI, and interaction flows based on user feedback.
- Designed and analyzed behavioral and fMRI studies testing how musical reward and computational auditory surprise shape long-term memory; modeled stimulus-level perceptual predictors and linked acoustic structure and listener ratings to show that songs are better remembered when they are both highly pleasurable to listen to and highly surprising.

Deezer, Paris, France

July 2025 – January 2026

Research Scientist Intern | Supervisors: Dr. Geoffray Bonnin & Dr. Bruno Sguerra

- Analyzed large-scale music streaming logs to study how listeners discover and adopt new tracks, grounding model design in theories of familiarity, novelty, cognitive load, and reward from cognitive psychology and neuroscience.
- Developed and evaluated embedding-based neural recommendation models that incorporate behavioral proxies for familiarity and cognitive effort to predict when a new track becomes a successful discovery (first “like” event).
- Co-authored a paper (in prep) proposing a cognitively informed framework for music recommender systems, formalizing how familiarity decay, repeated exposure, and mental load shape the likelihood of a successful discovery.

Veterans Medical Research Foundation, San Diego, CA

November 2019 – August 2021

Research Associate | PI: Dr. Amy Jak

- Conducted multimodal assessments for a 20-year longitudinal study on veterans with PTSD, integrating neuroimaging, audiology/vision testing, structured interviews, and neuropsychological batteries to characterize overall brain health.

SELECTED PUBLICATIONS

Carone, B. J., Roman, I. R., & Ripollés, P. (2026) [The MUSE Benchmark: Probing Music Perception and Auditory Relational Reasoning in Audio LLMs](#) (Accepted to ICASSP 2026).

Carone, B. J., Roman, I. R., Ripollés, P. (2026) [LLMs can read music, but struggle to hear it: An evaluation of core music perception tasks](#) (In Press). To be published in the 2026 Proceedings of Machine Learning Research.

Groves, K., Farbood, M., Carone, B. J., Ripollés, P. & Zuanazzi, A. (2025). [Acoustic features of instrumental movie soundtracks elicit distinct and mostly non-overlapping extra-musical meanings in the mind of the listener](#). Scientific Reports 15(1), 2327.

Carone, B. J., & Ripollés, P. (2024) [SoundSignature: What Type of Music do you Like?](#) IEEE Internet of Sounds 2024 Proceedings.