

JULIA WILKINS

Education

New York University, PhD | New York, NY | 2021-present

Computer Science PhD Candidate studying with Prof. Juan Bello and Prof. Magdalena Fuentes in the Music and Audio Research Laboratory. **Research interests: multimodal machine learning (audio-visual focus), music information retrieval, self-supervised learning, sound event localization and detection.**

Northwestern University, B.S. | Evanston, IL | 2014-2018

Dual Major: **Computer Science** and **Music Technology**.

Work Experience

Adobe Research

Audio Research Scientist Intern | San Francisco, CA / Remote | May 2022-present

Exploring cutting-edge multimodal representation learning problems across the audio, visual, and text domains.

Sonos, Inc.

Data Scientist/Engineer | Seattle, WA | Aug. 2018-July 2021

- **Data Science:** Led the development of Sonos' first production-level NLP model to analyze customer survey data.
- **Data Engineering:** Core developer of end-to-end data pipeline processing terabytes of product usage data daily.

Interactive Audio Lab, Northwestern University

Undergraduate Research Assistant | Evanston, IL | Jan. 2017-June 2018

Working under Bryan Pardo on a variety of music-information retrieval and audio-based machine/deep learning projects.

Music and Audio Research Lab, New York University

Research Assistant | New York, NY | June-Aug. 2016

Developed a Python application to error-proof audio files collected for MedleyDB, a large annotated dataset of multitrack audio files used for music information retrieval research.

Publications

Wilkins, J., Salamon, J., Fuentes, M., Bello, J. P., & Nieto, O. Bridging High-Quality Audio and Video Via Language for Sound Effects Retrieval from Visual Queries. *In Proceedings of WASPAA 2023.*

Wilkins, J., Fuentes, M., Bondi, L., Ghaffarzadegan, S., Abavisani, A., Bello, J.P. Two vs. Four-Channel Sound Event Localization and Detection. *In Proceedings of DCASE 2023 Workshop.*

Fuentes, M., **Wilkins, J.**, et al. **Urban Sight & Sound: Dataset and Benchmark for Audio-Visual Scene Understanding.** *In Proceedings of ICASSP 2022.*

Wilkins, J., Seetharaman P., Wahl, A., Pardo, B. **VocalSet: A Singing Voice Dataset.** *In Proceedings of ISMIR 2018.*

Bittner, R., **Wilkins, J.**, Yip, H., Bello, J. **MedleyDB 2.0: New Data and a System for Sustainable Data Collection.** *Late Breaking Demo at ISMIR 2016.*

Technical Skills

Programming Languages: Python (PyTorch, Lightning, NumPy, Pandas, PyTest, Tensorflow), SQL.

Technologies: Git, Bash, Snowflake Cloud Database, Tableau, AWS (Athena, S3, Lambda, SNS).

Service

Academic Service: Conference Reviewing

ICASSP, DCASE, WASPAA, ISMIR.

Microsoft TEALS Volunteer Teacher | Remote / Seattle, WA | June 2019-Aug. 2021

Led two, year-long remote high school courses introducing computer science to young students in Snap and Python.