MARK CARTWRIGHT

Brooklyn, NY
www.markcartwright.com

RESEARCH INTERESTS

I research and develop methods and tools to support new interactions for understanding and creating sound.

Keywords: machine listening, human-computer interaction, sound and music AI, machine learning, audio, music, environmental sound, sound accessibility, crowdsourcing, creativity support tools, human-AI interaction, music information retrieval, digital signal processing

CURRENT APPOINTMENT

New Jersey Institute of Technology, Newark, NJ
Assistant Professor, Department of Informatics — Jan. 2021 – present
Core Faculty, Center for AI Research — Sep. 2021 – present

EDUCATION

Northwestern University, Evanston, IL — 2016
Ph.D., Computer Science
Dissertation: Supporting Novice Communication of Audio Concepts for Audio Production Tools
Committee: Bryan Pardo (advisor), Darren Gergle, Doug Downey

Stanford University, Stanford, CA — 2007
M.A., Music Science and Technology
Advisor: Julius O. Smith III

Northwestern University, Evanston, IL — 2004
B.Mus., Music Technology (with Honors)
Certificate in Sound Design
Advisor: Gary Kendall

PROFESSIONAL EXPERIENCE

New Jersey Institute of Technology, Newark, NJ
Assistant Professor, Department of Informatics — Jan. 2021 – present
Graduate Faculty, Department of Computer Science — Sep. 2023 – present
Core Faculty, Center for AI Research — Sep. 2021 – present

New York University, New York, NY
Affiliated Faculty, Music and Audio Research Lab — Sep. 2021 – present
Research Assistant Professor, Dept. of Computer Science and Engineering — Jan. 2019 – Dec. 2020
Research Scientist, Center for Urban Science and Progress — Jan. 2019 – Dec. 2020
Postdoctoral Researcher, Dept. Music and Performing Arts Professions — Sep. 2016 – Dec. 2018
Music and Audio Research Laboratory; P.I.: Juan Pablo Bello

Northwestern University, Evanston, IL
Research Assistant, Dept. of Electrical Engineering and Computer Science — Sep. 2009 – Aug. 2016
Interactive Audio Lab; P.I.: Bryan Pardo

Adobe Systems, San Francisco, CA
Research Intern, Adobe Research — Feb. 2015 – May 2015
Creative Technologies Lab; Mentors: Gautham Mysore and Matt Hoffman

Queen Mary University of London, London, UK
Visiting Student Researcher, Department of Electronic Engineering — Feb. 2013 – Nov. 2013
Center for Digital Music; Hosts: Josh Reiss and Andrew McPherson

PacketVideo, Palatine, IL
Digital Signal Processing Engineer — Sep. 2007 – Aug. 2009

Big House Audio, Chicago, IL
Audio Post Production Engineer — Nov. 2005 – May 2006

RESEARCH FUNDING

Collaborative Research: HCC: Medium: AI-Supported Audio Captioning of Non-Speech Information — Jul 15, 2025 – Jun 30, 2028
National Science Foundation – CISE HCC Core program ($799,997)
PI: Mark Cartwright, Co-PI: Magdalena Fuentes, Sooyeon Lee

Unrestricted Gift — May 27, 2025
Adobe, Inc ($18,000)
PI: Mark Cartwright

Sound Captioning for Accessibility — Jun 1, 2023 – May 31, 2025
Music and Audio Research Lab (MARL) Faculty Seed Grant ($8,000)
PI: Magdalena Fuentes, Co-PI: Mark Cartwright, Sooyeon Lee

III: Medium: Spatial Sound Scene Description — Jul 1, 2020 – Aug 31, 2024
National Science Foundation – CISE III Core program ($1,056,155)
PI: Juan Pablo Bello, Co-PI: Agnieszka Roginska, Mark Cartwright, Brian McFee

Open World Sound Event Recognition in Longitudinal Audio Data — 2021–2022
NJIT Faculty Seed Grant ($7,500)
PI: Mark Cartwright

HONORS, AWARDS, AND FELLOWSHIPS

ACM CHI Best Paper Award Honorable Mention — 2015,2026

IEEE WASPAA Special Best Paper Award — 2021

Northwestern University Terminal Year Fellowship — 2016

ACM Multimedia Best Demo Award — 2014

National Science Foundation Graduate Research Fellowship 2011

Helen and Robert Piros Fellowship 2009

PUBLICATIONS

Journal Publications

8. May, L., Clemens, M., Dang, K., Ohshiro, K., Sridhar, S., Wee, P., Fuentes, M., Lee, S., Cartwright, M. 'Choices? That's The Dream': Challenges and Opportunities in Non-Speech Information Closed-Captioning. In *Frontiers in Computer Science (sec. Human-Media Interaction)*, vol. 7, 2025.

7. Knight, E.C., Rinehart, T.A., de Zwaan, D, Weldy, M.J., Cartwright, M., Hawley, S., Larkin, J.L., Lesmeister, D., Bayne, E.M., Kitzes, J. Individual Identification in Acoustic Recording. In *Trends in Ecology and Evolution*, vol. 39 (9), 2024.

6. Rulff, J., Miranda, F., Hosseini, M., Lage, M., Cartwright, M., Dove, G., Bello, J.P., Silva, C. Urban Rhapsody: Large-scale Exploration of Urban Soundscapes. In *Computer Graphics Forum*, vol. 41(3), pp. 209–221, 2022.

5. Mendez, A.E.M., Cartwright, M., Bello, J.P., Nov, O. Eliciting Confidence for Improving Crowdsourced Audio Annotations. In *Proceedings of the ACM on Human-Computer Interaction*, vol. 6(CSCW1), 2022.

4. Pardo, B., Cartwright, M., Seetharaman, P., Kim, B. Learning to Build Natural Audio Production Interfaces. In *Arts*, vol. 8(3), 110, 2019.

3. McFee, B., Kim, J.W., Cartwright, M., Salamon, J., Bittner, R., Bello, J.P. Open-Source Practices for Music Signal Processing Research: Recommendations for Transparent, Sustainable, and Reproducible Audio Research. In *IEEE Signal Processing Magazine*, vol. 36(1), 2019.

2. Lostanlen, V., Salamon, J., Cartwright, M., McFee, B., Farnsworth, A., Kelling, S., Bello, J.P. Per-Channel Energy Normalization: Why and How. In *IEEE Signal Processing Letters*, vol. 26(1), 2019.

1. Cartwright, M., Seals, A., Salamon, J., Williams, A., Mikloska, S., MacConnell, D., Law, E., Bello, J.P., Nov, O. Seeing Sound: Investigating the Effects of Visualizations and Complexity on Crowdsourced Audio Annotations. In *Proceedings of the ACM on Human-Computer Interaction*, vol. 1(CSCW), 2017.

Refereed Conference and Workshop Publications

47. Sridhar, S., Seetharaman, P., Nieto, O., Cartwright, M., Salamon, J. AudioCards: Structured Metadata Improves Audio Language Models for Sound Design. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2026.

46. Nguyen, H., McDonnell, E.J., May, L., Druzenko, A., Syeda, Z.S., Cartwright, M., Lee, S. Like, Comment & Caption: A Decade of Social Media Video Caption Research (2015–2025). In *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2026. **Best Paper Award Honorable Mention**

45. Morse, J., Naderi, A., Gaudl, S., Cartwright, M., Hoover, A., Nelson, M.J. Expressive Range Characterization of Open Text-to-Audio Models. In *Proceedings of the AAAI conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE)*, 2025.

44. Anaraky, R., Cartwright, M., Nov, O. The Role of Auditory Environments and Anxiety in Detecting Phishing Emails. In *Proceedings of the ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA)*, 2025.

43. Ohshiro, K., Cartwright, M. Audio Engineering for Podcasts by deaf and Hard of Hearing Creators. In *Proceedings of the ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA)*, 2025.

42. Sridhar, S., Cartwright, M. Compositional Audio Representation Learning. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2025.

41. May, L., Williams, A., Hassan, S., Cartwright, M., Lee, S. Towards a Rich Format for Closed Captioning. In *Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*, 2024.

40. May, L., Ohshiro, K., Dang, K., Sridhar, S., Pai, J., Fuentes, M., Lee, S., Cartwright, M. Unspoken Sound: Identifying Trends in Non-Speech Audio Captioning on YouTube. In *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2024.

39. Ohshiro, K., Cartwright, M. Audio Engineering by People Who Are Deaf and Hard of Hearing: Balancing Confidence and Limitations. In *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2024.

38. Sridhar, S., Cartwright, M. Multi-label Open-set Audio Classification. In *Proceedings of the Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2023.

37. Cartwright, M., Fuentes, M., Mydlarz, C., Miranda, F., Bello, J.P. Does a quieter city mean fewer complaints? The Sounds of New York City During COVID-19 Lockdown. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2023.

36. Ohshiro, K., Cartwright, M. How people who are deaf, Deaf, and hard of hearing use technology in creative sound activities. In *Proceedings of International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*, 2022.

35. Wang, Y., Cartwright, M., Bello, J.P. Active Few-Shot Learning for Sound Event Detection. In *Proceedings of INTERSPEECH*, 2022.

34. Srivastava, S., Wu, H., Rulff, J., Fuentes, M., Cartwright, M., Silva, C., Arora, A., Bello, J.P. A Study on Robustness to Perturbations for Representations of Environmental Sound. In *Proceedings of the European Signal Processing Conference (EUSIPCO)*, 2022.

33. Fuentes, M., Zhao, D., Lostanlen, V., Cartwright, M., Mydlarz, C., Bello, J.P. MONYC: Music of New York City Dataset. In *Proceedings of the Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2021.

32. Cramer, A., Cartwright, M., Pishdadian, F., Bello, J.P. Weakly Supervised Source-Specific Sound Level Estimation in Noisy Soundscapes. In *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2021.

31. Wang, Y., Bryan, N., Salamon, J., Cartwright, M., Bello, J.P. Who calls the shots? Rethinking few-shot learning for audio. In *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2021. **Special Best Paper Award**

30. Wang, Y., Bryan, N., Cartwright, M., Bello, J.P., Salamon, J. Few-Shot Continual Learning for Audio Classification. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021.

29. Srivastava, S., Roy, D., Cartwright, M., Bello, J.P., Arora, A. Specialized Embedding Approximation for Edge Intelligence: A Case Study in Urban Sound Classification. In *Proceedings of the*

IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2021.

28. Cartwright, M., Cramer, A., Mendez, A.E.M., Wang, Y., Wu, H., Lostanlen, V., Fuentes, M., Dove, G., Mydlarz, C., Salamon, J., Nov, O., Bello, J.P. SONYC-UST-V2: An Urban Sound Tagging Dataset with Spatiotemporal Context. In *Proceedings of the Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2020.

27. Wang, Y., Salamon, J., Cartwright, M., Bryan, N.J., Bello, J.P. Few-Shot Drum Transcription in Polyphonic Music. In *Proceedings of the International Society for on Music Information Retrieval Conference (ISMIR)*, 2020.

26. Cartwright, M., Mendez, A.E.M., Cramer, J., Lostanlen, V., Dove, G., Wu, H., Salamon, J., Nov, O., Bello, J.P. SONYC Urban Sound Tagging (SONYC-UST): A Multilabel Dataset from an Urban Acoustic Sensor Network. In *Proceedings of the Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2019.

25. Cartwright, M., Cramer, J., Salamon, J., Bello, J.P. TriCycle: Audio Representation Learning from Sensor Network Data Using Self-Supervision. In *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2019.

24. Cohen-Hadria, A., Cartwright, M., McFee, B., Bello, J.P. Voice Anonymization in Urban Sound Recordings. In *Proceedings of the IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, 2019.

23. Mendez, A.E.M., Cartwright, M., Bello, J.P. Machine-Crowd-Expert Model for Increasing User Engagement and Annotation Quality. In *Proceedings of the ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA)*, 2019.

22. Kumari, S., Roy, D., Cartwright, M., Bello, J.P., Arora, A. EdgeL3: Compressing L3-Net for Mote Scale Urban Noise Monitoring. In *Proceedings of the Workshop on Parallel AI and Systems for the Edge (PAISE)*, 2019.

21. Wang, Y., Mendez, A.E.M., Cartwright, M., Bello, J.P. Active Learning for Efficient Audio Annotation and Classification with a Large Amount of Unlabeled Data. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2019.

20. Cartwright, M., Dove, G., Mendez, A.E.M., Bello, J.P., Nov, O. Crowdsourcing Multi-label Audio Annotation Tasks with Citizen Scientists. In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI)*, 2019.

19. Cartwright, M., Bello, J.P. Increasing Drum Transcription Vocabulary Using Data Synthesis. In *Proceedings of the International Conference on Digital Audio Effects (DAFx)*, 2018.

18. Cartwright, M., Salamon, J., Seals, A., Nov, O., Bello, J.P. Investigating the Effect of Sound-Event Loudness on Crowdsourced Audio Annotations. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2018.

17. Cartwright, M., Pardo, B., Mysore, G. Crowdsourced Pairwise-Comparison for Source Separation Evaluation. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2018.

16. Salamon, J., MacConnell, D., Cartwright, M., Li, P., Bello, J.P. Scaper: A Library for Soundscape Synthesis and Augmentation. In *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2017.

15. Cartwright, M., Pardo, B. The Moving Target in Creative Interactive Machine Learning. In *Proceedings of the Workshop on Human Centred Machine Learning (HCML)* at the Conference on Human Factors in Computing Systems (CHI), 2016.

14. Brewer, R., Cartwright, M., Karp, A., Pardo, B., Piper, A.M. An Approach to Audio-Only Editing for Visually Impaired Seniors. In *Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*, 2016.

13. Cartwright, M., Pardo, B., Mysore, G., Hoffman, M. Fast and Easy Crowdsourced Perceptual Audio Evaluation. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2016.

12. Ford, J., Cartwright, M., Pardo, B. MixViz: A Tool to Visualize Masking in Audio Mixes. In *Proceedings of the 139th International Audio Engineering Society Convention (AES)*, 2015.

11. Cartwright, M., Pardo, B. VocalSketch: Vocally Imitating Audio Concepts. In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI)*, 2015. **Best Paper Award Honorable Mention**

10. Cartwright, M., Pardo, B. SynthAssist: An Audio Synthesizer Programmed With Vocal Imitation. In *Proceedings of the ACM International Conference on Multimedia (ACM MM)*, 2014. **Best Demo Award**

9. Cartwright, M., Pardo, B. SynthAssist: Querying an Audio Synthesizer by Vocal Imitation. In *Proceedings of New Instruments for Musical Expression (NIME)*, 2014.

8. Cartwright, M., Pardo, B. Translating Sound Adjectives by Collectively Teaching Abstract Representations. In *Proceedings of the Collective Intelligence Conference*, 2014.

7. Cartwright, M., Pardo, B., Reiss, J. Mixploration: Rethinking the Audio Mixer Interface. In *Proceedings of the International Conference on Intelligent User Interfaces (IUI)*, 2014.

6. Cartwright, M., Pardo, B. Social-EQ: Crowdsourcing an Equalization Descriptor Map. In *Proceedings of the International Conference on Music Information Retrieval (ISMIR)*, 2013.

5. Cartwright, M., Pardo, B. Novelty Measures as Cues for Temporal Salience in Audio Similarity. In *Proceedings of the Workshop on Music Information Retrieval with User-Centered and Multimodal Strategies (MIRUM)* at the ACM International Conference on Multimedia (ACM-MM), 2012.

4. Cartwright, M., Pardo, B. Building a Music Search Database Using Human Computation. In *Proceedings of the Sound and Music Computing Conference (SMC)*, 2012.

3. Cartwright, M., Rafii, Z., Han, J., Pardo, B. Making Searchable Melodies: Human vs. Machine. In *Proceedings of the Workshop on Human Computation (HCOMP)* at the AAAI Conference on Artificial Intelligence (AAAI), 2011.

2. Huq, A., Cartwright, M., Pardo, B. Crowdsourcing a Real-World On-Line Query By Humming System. In *Proceedings of the Sound and Music Computing Conference (SMC)*, 2010.

1. Cartwright, M., Jones, M., Terasawa, H. Rage in Conjunction with the Machine. In *Proceedings of New Instruments for Musical Expression (NIME)*, 2007.

Non-Refereed Publications

2. Cartwright, M., Pardo, B. Audio Production with Intelligent Machines. Presented at Workshop on *Collaborating with Intelligent Machines: Interfaces for Creative Sound*, ACM Conference on Human Factors in Computing Systems (CHI), 2015.

1. Cartwright, M., Pardo, B. Interactive Learning for Creativity Support in Music Production. Presented at Workshop on *Semi-Automated Creativity*, ACM Creativity and Cognition, 2011.

Patents

1. Cartwright, M., Pardo, B. "Systems, Methods, and Apparatus to Search Audio Synthesizers using Vocal Imitation," U.S. Patent US9390695B2, filed October 27, 2015, and issued July 12, 2016.

INVITED LECTURES, SEMINARS, AND PANELS

23. New York University MARL Seminar — November 7, 2024
"Update on Accessible Audio Captioning"

22. Audio Engineering Society Symposium on AI and the Musician — June 7, 2024
"How will generative AI reshape music?" (Moderator)

21. New York University MARL Seminar — November 8, 2023
"Accessible Audio Captioning"

20. Workshop on the Detection and Classification of Acoustic Scenes and Events — September 22, 2023
"Townhall Discussion" (Moderator)

19. 184th Meeting of the Acoustical Society of America — May 11, 2023
"A Retrospective on Monitoring Noise Pollution with Machine Learning in the Sounds of New York City Project"

18. New York University MARL / IDM Seminar — March 3, 2022
"Human-Centered Machine Listening and Audio Processing"

17. New Jersey Institute of Technology Informatics Seminar — February 24, 2020
"Machine Listening with Limited Labeled Data: From Crowdsourcing to Self-Supervision"

16. New York University Center for Data Science Seminar — February 6, 2019
"Building a Machine-Listening System to Monitor, Analyze, and Mitigate Urban Noise Pollution"

15. Audio Engineering Society Latin American Conference Keynote — September 24, 2018
"Building a Machine-Listening System to Monitor, Analyze, and Mitigate Urban Noise Pollution"

14. Cornell Tech — May 11, 2018
"Crowdsourcing Audio Annotations"

13. University of Victoria — March 8, 2018
"Human-Centered Audio Processing"

12. Midwest Music and Audio Day (MMAD) — June 23, 2017
"A Study on Best Practices for Crowdsourced Annotation of Sound Events"

11. Workshop on Cross-Disciplinary and Multi-Cultural Perspectives on Musical Rhythm and Improvisation III, NYU Abu Dhabi — March 21, 2017
"Towards Data-Driven Models of Rhythm"

10. New York University Music and Audio Research Lab (MARL) Seminar — October 20, 2016
"'Give me a <ka-CHUNK>': Rethinking the Interaction Paradigm of Audio Production Tools"

9. University of Washington DUB Seminar — June 1, 2016
"'Give me a <ka-CHUNK>': Rethinking the Interaction Paradigm of Audio Production Tools"

8. University of Toronto — April 7, 2016
"'Give me a <ka-CHUNK>': Rethinking the Interaction Paradigm of Audio Production Tools"

7. University of Illinois at Chicago — March 2, 2016
"'Give me a <ka-CHUNK>': Rethinking the Interaction Paradigm of Audio Production Tools"

6. Bay Innovative Signal Hackers (BISH) Bash — September 17, 2015
"Crowdsourced Audio Quality Evaluation"

5. KAIST (Korea Advanced Institute of Science and Technology) April 24, 2015
   "Natural Communication and Exploration in Audio Production Interfaces"
4. Birmingham City University August 6, 2014
   "Natural Communication and Exploration in Audio Production Interfaces"
3. Institut de Recherche et Coordination Acoustique/Musique (IRCAM) July 4, 2014
   "Natural Communication and Exploration in Audio Production Interfaces"
2. Midwest Music Information Retrieval Gathering (MMIRG) June 14, 2014
   "SynthAssist: Querying a Synthesizer Using Vocal Imitation"
1. Telecom Paristech June 13, 2013
   "Building a Personalized Audio Equalizer Interface"

TUTORIALS

1. International Society for on Music Information Retrieval Conference 2021
   "Programming MIR Baselines from Scratch: Three Case Studies"

ACADEMIC SERVICE

University

Merit Rubric Committee of the Department of Informatics 2024–2025
Chair Search Committee of the Department of Informatics 2022–2023
Faculty Search Committee of the Department of Informatics 2021–2023

Conference Organization

Technical Program Chair, Workshop on Detection and Classification of Acoustic Scenes 2026
Finance Chair, IEEE Workshop on Applications of Signal Processing to Audio and Acoustics 2023, 2025
General Chair, Northeast Music Informatics Special Interest Group (NEMISIG) Workshop 2022
General Co-Chair, Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE) 2019
Local Organizing Committee, Midwest Music Information Retrieval Gathering 2011, 2014

Challenge Organization

Task Organizer, IEEE AASP Challenge on Detection and Classification of Acoustic Scenes and Events 2019–2020

Steering Committee

Workshop on Detection and Classification of Acoustic Scenes and Events 2023–present

Technical Committee

IEEE SPS Audio and Acoustic Signal Processing Technical Committee 2023–present

Grant Reviewing

National Science Foundation 2023–2024

Program Committee

International Society for Music Information Retrieval Conference	2020–2021, 2025
IEEE Workshop on Applications of Signal Processing to Audio and Acoustics	2025
IEEE International Conference on Acoustics, Speech, and Signal Processing	2025
ACM Conference on Computer-Supported Cooperative Work and Social Computing	2021
International Conference on Digital Audio Effects	2018

Journal Reviewing

IEEE Transactions on Audio, Speech and Language Processing, Journal of the Acoustical Society of America, International Journal of High School Research, Journal of New Music Research, ACM Transactions on Accessible Computing, PLOS One, IEEE Signal Processing Letters, International Journal of Digital Earth, MDPI Applied Sciences, IEEE Transactions on Multimedia, Elsevier Machine Learning with Applications, Journal of the Audio Engineering Society, Acta Acustica united with Acustica, IEEE Signal Processing Magazine, ACM Transactions on Interactive Intelligent Systems, Springer Journal on Multimodal User Interfaces, Springer Information Retrieval Journal

Conference Reviewing

IEEE International Conference on Acoustics, Speech, and Signal Processing, ACM SIGCHI Conference on Human Factors in Computing Systems, Workshop on Detection and Classification of Acoustic Scenes and Events, IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, International Society for Music Information Retrieval Conference, ACM Symposium on User Interface Software and Technology, European Signal Processing Conference, International Conference on Digital Audio Effects, ACM Conference on Computer-Supported Cooperative Work and Social Computing, ACM Conference on Creativity and Cognition, International AAAI Conference on Web and Social Media, ACM IUI Workshop on Intelligent Music Interfaces for Listening and Creation, ACM International Conference on Intelligent User Interfaces, ACM International Conference on Multimedia, ACM International Conference on Tangible, Embedded and Embodied Interaction, International Computer Music Conference, International Conference on Human-Computer Interaction with Mobile Devices and Services, IEEE International Workshop on Multimedia Signal Processing

Doctoral Thesis Committee

Tom Xi, New York University	2025–2026
Bilas Talukdar, New Jersey Institute of Technology	2026
Charis Cochran, Drexel University	2025–2026
Danzel Serrano, New Jersey Institute of Technology	2025
Enis Coban, City University of New York	2024–2025
Al Shahriar Rubel, New Jersey Institute of Technology	2025
Jiaxing Zhang, New Jersey Institute of Technology	2023–2025
Wenbo Wang, New Jersey Institute of Technology	2023–2025
Kantida Nanon, New Jersey Institute of Technology	2023–2024
Andrew Wiggins, Drexel University	2023–2024
Ana Elisa Mendez Mendez, New York University	2021–2023

Doctoral Thesis Reading

Toni Heittola, Tampere University 2021

Doctoral Candidacy Committee

Al Shahriar Rubel, New Jersey Institute of Technology 2024

Jiaxing Zhang, New Jersey Institute of Technology 2022

Charis Cochran, Drexel University 2022

Wenbo Wang, New Jersey Institute of Technology 2022

Kantida Nanon, New Jersey Institute of Technology 2022

Other Academic Service

Mentor, Women in Music Information Retrieval mentoring program 2019–2025

TEACHING EXPERIENCE

Courses

Instructor, IS-465 Advanced Information Systems 2024, 2026
New Jersey Institute of Technology

Instructor, IS-665 Data Analysis for Information Systems 2025
New Jersey Institute of Technology

Instructor, CS-698 ST: Machine Listening 2023
New Jersey Institute of Technology

Instructor, CS-485/IS-485 ST: Machine Listening 2022–2023
New Jersey Institute of Technology

Instructor, IS-247 Designing the User Experience 2022–2023
New Jersey Institute of Technology

Instructor, IS-657 Spatiotemporal Urban Analytics 2021
New Jersey Institute of Technology

Instructor, IS-485/698 ST: Machine Listening 2021
New Jersey Institute of Technology

Teaching Assistant, EECS-352 Machine Perception of Audio and Music 2015
Northwestern University

Teaching Assistant, DSGN 395-20 Data as Art 2014
Northwestern University / School of the Art Institute of Chicago

Teaching Assistant, EECS-349 Machine Learning 2012
Northwestern University

Teaching Assistant, EECS-348 Introduction to Artificial Intelligence 2011
Northwestern University

Doctoral Advising

Keita Ohshiro, New Jersey Institute of Technology Expected 2028

Sripathi Sridhar, New Jersey Institute of Technology Expected 2026

Masters Advising

Aaron Basch, New Jersey Institute of Technology 2022

Danzel Serrano, New Jersey Institute of Technology 2022

Student Mentorship

Austin Rakhunde, Undergraduate, New Jersey Institute of Technology 2026

Tanay Rakhunde, Undergraduate, New Jersey Institute of Technology 2026

Prisha Singh, Undergraduate, New Jersey Institute of Technology 2026

Naevid-Lorenz Sablay, Undergraduate, New Jersey Institute of Technology 2025–2026

Jonathan Morse, Undergraduate, New Jersey Institute of Technology 2024–2026

Lloyd May, Doctoral, Stanford University 2023–2025

Alp Hance, Undergraduate, New Jersey Institute of Technology 2023–2025

Matthew DeFranceschi, Undergraduate, New Jersey Institute of Technology 2024

Mithun Manivannan, Undergraduate, New Jersey Institute of Technology 2024

Krishi Shah, Undergraduate, New Jersey Institute of Technology 2024

Jhanvi Pai, Undergraduate, New Jersey Institute of Technology 2022–2023

Vignesh Nethrapalli, Undergraduate, New Jersey Institute of Technology 2023

Sangeeta Srivastava, Doctoral, Ohio State University 2018–2022

Yu Wang, Doctoral, New York University 2018–2022

Ana Elisa Mendez Mendez, Doctoral, New York University 2017–2022

Simran Kaur, Undergraduate, New Jersey Institute of Technology 2022

Mehakpreet Kaur, Undergraduate, New Jersey Institute of Technology 2022

Anthony Detorfino, Undergraduate, New Jersey Institute of Technology 2022

Aurora Cramer, Doctoral, New York University 2018–2021

Danielle Zhao, Undergraduate, New York University 2020

Marin Hyatt, High School Senior, New York University ARISE 2019–2020

Center for Urban Science and Progress capstone project, New York University 2020

Center for Data Science capstone project, New York University 2019

Bianca Brusco, Masters, New York University 2018–2019

Alice Cohen-Hadria, Doctoral, IRCAM 2019

Center for Urban Science and Progress capstone project, New York University 2019

Gregory Reardon, Masters, New York University 2018

Giordan Escalona, High School Junior, New York University ARISE 2018

Ariadna Paltis, High School Junior, New York University ARISE 2017

Naomi Horsford, High School Senior, New York University ARISE 2017

Ayanna Seals, Doctoral, New York University 2016–2017

Aaron Karp, Undergraduate Junior, Northwestern University 2016

Jonathan Ford, Masters Student, Northwestern University 2015

David Sumber, Undergraduate Senior, Northwestern University 2012

PRESS AND INTERVIEWS

PBS News Hour July 10, 2025
"Opera uses AI to give people with non-verbal disabilities a voice"

Forbes June 16, 2025
"3D Sensing And AI Give Operatic Voice To Non-Verbal Performers"

NPR Weekend Edition June 3, 2025
"Two nonverbal actors star in a new opera — with an assist from AI"

ABC 7 KETV Omaha May 25, 2025
"'Sensorium Ex' opera performs at the Common Sense Festival"

NJIT Research June 22, 2022
"Listening to Noise and Nature with Smart Ears"

New York Times May 22, 2020
"The Coronavirus Quieted City Noise. Listen to Whats Left"

NBC 4 New York May 22, 2020
"The City That Never Makes a Peep: NYCs Quietest Days on Record Have Come Amid Shutdown"

NPR Here and Now April 14, 2020
"Volunteers Flock To Sign Up As Citizen Scientists"

Big Picture Science January 20, 2020
"The ears have it—Noise: noxious or necessary?"

NPR Here and Now May 29, 2019
"Noise is New York City's biggest civic complaint. Researchers are trying to help turn it down"

The New Yorker May 6, 2019
"Is noise pollution the next big public-health crisis?"

Gizmodo March 11, 2019
"You can help train AI to pinpoint NYCs noisiest neighborhoods in an effort to shut them up"

The Verge March 10, 2019
"Help fight noise pollution by identifying these sound clips collected from urban sensors"

NBC 4 New York March 6, 2019
"NYU Project Could Help Alleviate NYC Noise Pollution"

AM New York March 5, 2019
"Think you know the sounds of the city? Noise pollution experts needed"

Metro February 28, 2019
"You can help researchers curb NYC noise pollution as a citizen scientist"

MIT Technology Review — July 23, 2010
"Query-by-Humming Musical Search Engine Launched"

ADDITIONAL EDUCATION

Stanford University, Stanford, CA — July 2007
Summer Institute for Entrepreneurship
Graduate School of Business

ARTISTIC COLLABORATIONS

'Sensorium Ex' Opera, AI Systems Developer and Advisor — 2024–2025

MUSICAL DISCOGRAPHY

"Piñata" with *volcano!*, The Leaf Label — 2012

"Piñata (single)" with *volcano!*, The Leaf Label — 2012

"So Many Lemons (single)" with *volcano!*, The Leaf Label — 2009

"Paperwork" with *volcano!*, The Leaf Label — 2008
- New York Times "Critic's Choice" (September, 2008)

"Africa Just Wants To Have Fun (7-inch)" with *volcano!*, The Leaf Label — 2008

"Apple or a Gun (7-inch)" with *volcano!*, The Leaf Label — 2006

"Beautiful Seizure" with *volcano!*, The Leaf Label — 2005
- DrownedInSound.com's #2 Album of the Year (2006)

"Chicago Union Station" with *Cartwright, Moorefield, Weeter* — 2004
- Organised Sound DVD, Cambridge University Press (2004)
- International Computer Music Conference DVD (2004)

CONFERENCE / FESTIVAL PRESENTATION OF COMPOSITIONS

"Six Corners" by *Cartwright, Moorefield, Weeter*
- Third Practice — 2006
- New Music Northwestern Festival — 2005

"Chicago Union Station" by *Cartwright, Moorefield, Weeter*
- Electronic Music Midwest — 2005
- Society for Electro-Acoustic Music in the United States — 2005
- International Computer Music Conference — 2004

SELECTED MUSICAL PERFORMANCES

volcano! at Daytrotter.com, Rock Island, IL — December 7, 2012

volcano! at WBEZ's 848, Chicago, IL — June 12, 2012

volcano! at Millenium Park, Chicago, IL	May 31, 2010
volcano! at Tabula Rasa, Moscow, Russia	April 29, 2009
volcano! at SWN Festival, Cardiff, UK	November 24, 2008
volcano! at Botanique, Brussels, Belgium	November 5, 2008
volcano! at Interzona, Verona, Italy	Octocber 25, 2008
volcano! at Radio RAI (Italian National Radio), Bolzano, Italy	October 23, 2008
volcano! at Lido, Berlin, Germany	October 21, 2008
volcano! at Harbourfront Centre, Toronto, Canada	August 25, 2006
volcano! at Villette Sonique Festival, Paris, France	June 24, 2006
volcano! at Huw Stephens Session (BBC Radio 1), London, UK	June 27, 2006
volcano! at SXSW, Austin, TX	March 17, 2006
Cartwright, Moorefield, Weeter at New Music Northwestern, Evanston, IL	May 22, 2005

PROFESSIONAL MEMBERSHIPS

ACM (Association for Computing Machinery)

IEEE (Institute of Electrical and Electronics Engineers)

National Academy of Inventors