

# ANNIE CHU

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## TL;DR

My research explores how computational tools shape the ways people create and experience sound. Working at the intersection of audio, machine learning, and human-centered design, I develop novel audio models and interactive systems grounded in creative practice while studying their practical and broader cultural impacts. I aim to design audio systems that are expressive, inclusive, and socially responsible.

*Research interests:* creative audio ML, music information retrieval, HCI, sonic interfaces, practitioner-centered design, ethical ML/AI

## EDUCATION

<b>Northwestern University, PhD</b> <i>Technology &amp; Social Behavior (Dual CS + Communications)</i>	Evanston, IL 2023 - Present (expected 2028)
<b>Olin College of Engineering, B.S.</b> <i>Major: Electrical Engineering, Focus: Media Arts</i>	Needham, MA 2018 - 2022

## RESEARCH

<b>Adobe Research</b> <i>Research Intern, Mentors: Prem Seetharaman, Oriol Nieto, Justin Salamon</i>	Summer 2025
<b>Northwestern University</b> <i>Interactive Audio Lab, Advisor: Bryan Pardo</i>	Sep 2023 – Present
<b>Northwestern University</b> <i>Other Research Collaborations</i> <ul style="list-style-type: none"><li>• Music Cognition &amp; Perception Lab (collaboration with Dan Shanahan)</li><li>• Lu Lab (collaboration with Yingdan Lu, Summer/Fall 2024)</li></ul>	Sep 2024 – Present
<b>Music and Audio Research Lab (MARL) – New York University</b> <i>Research Assistant, SONYC</i>	Summer 2022
<b>DSP Research – Reverb Algorithms</b> <i>Undergraduate Researcher, Advisor: Andrew Davis</i>	2021 – 2022

## PUBLICATIONS

1. **A. Chu**, H. Flores García, O. Nieto, J. Salamon, B. Pardo, and P. Seetharaman. Mix2morph: Learning sound morphing from noisy mixes. In *ICASSP 2026*
2. **A. Chu**, P. O'Reilly, J. Barnett, and B. Pardo. Text2fx: Harnessing clap embeddings for text-guided audio effects. In *ICASSP 2025*
3. P. O'Reilly, J. Barnett, H. Flores García, **A. Chu**, N. Pruyne, P. Seetharaman, and B. Pardo. The rhythm in anything: Audio-prompted drums generation with masked language modeling. In *ISMIR 2025*
4. W. Agnew, J. Barnett, **A. Chu**, R. Hong, M. Feffer, R. Netzorg, H. H. Jiang, E. Awumey, and S. Das. Sound check: Auditing audio datasets. In *AIES 2025*
5. J. B. Smith, **A. Chu**, N. Alben, S. Ding, K. Gautier, S. Garrett, B. Magerko, J. Freeman, B. Pardo, S. Ludi, T. Lee, and T. McKlin. Using co-design to investigate affordances of an expressive cs learning environment for students who are bvi. In *ASSETS 2025*
6. J. Barnett, P. O'Reilly, J. B. Smith, **A. Chu**, and B. Pardo. Ethics statements in AI music papers: The effective and the ineffective. In *NeurIPS 2025 AI for Music Workshop*
7. **A. Chu**, H. Flores García, P. O'Reilly, B. Pardo. "Text2EQ: Human-in-the-Loop Co-Creation Interface for EQ." Accepted Late-Breaking Demo (LBD), *ISMIR 2024*

## TEACHING & SERVICE

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**Student Volunteer Co-Chair — CHI 2026**

*with Tzu-Sheng Kuo, Yuki Onishi, Esen Tütüncü*

2026

**Teaching Assistant — Northwestern University**

*CS352: Machine Perception of Music and Audio*

Spring 2025 & Winter 2026

**Instructor — Northwestern University**

*Generative Modeling (with Julia Barnett)*

Winter 2025

**Workshop Instructor — OCMC 2024**

*Faces to Soundwaves: Unpacking Organizational Communication through Computational Multimodal Analysis (with Dr. Yingdan Lu)*

Sep 2024

**Instructor — Northwestern University**

*Human-Computer Interfaces for Musicking (with Hugo Flores García)*

Spring 2024

**Teaching Assistant — Olin College**

*Introduction to Sensors, Instrumentation, and Measurement*

2018 & 2019

**Reviewer**

- NeurIPS 2025, AI for Music Workshop

## TALKS

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**Leveraging ML to Understand the Digital Soundscape of Social Movements on TikTok**

*NSF Sound Travels*

Sep 2024

**Algo-Rhythms: How Music Recommendation Systems Keep You in Tune**

*Scientists for Migrant Learning & Education*

May 2024

## HONORS AND AWARDS

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**NSF Graduate Research Fellowship Program Honorable Mention**

2025

**WiMIR Conference Grant**

2022

**National Merit Scholarship**

2018–2022

**Olin College Merit Tuition Scholarship**

2018–2022

## SKILLS

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- **Programming Languages** - Python, MATLAB
- **Machine Learning** - PyTorch, Scipy, Numpy, Scikit-learn, TensorFlow
- **Audio Production** - Logic Pro X
- **Design Methods & Prototyping Tools** - Figma, Adobe XD, Wireframing, User Journey Mapping, Participatory Design, Speculative Design, Usability Testing
- **Qualitative Research Methods** - Grounded Thematic Analysis, Interview Coding, Survey Design