# Ethan Manilow

@ ethanmanilow@gmail.com | Google Scholar | Website | Github | LinkedIn

## Education

**Northwestern University** — Evanston, IL
*Ph.D. in Computer Science and Communication* — *Expected: Summer 2022*
*MS in Computer Science and Communication* — *2017*

**University of Michigan** — Ann Arbor, MI
*BS in Physics* — *2013*
*BFA in Jazz Studies (Guitar)* — *2013*

## Experience

**Google Brain, Magenta Team** — Mountain View, CA (Remote)
*Research Intern & Student Researcher* — *June 2020 – April 2022*

**Mitsubishi Electric Research Labs, Speech & Audio Team** — Cambridge, MA
*Research Intern & Student Researcher* — *Sept 2018 – Jan 2020*

**National Instruments** — Austin, TX
*Software Engineer* — *Nov 2013 – Aug 2015*

**ATLAS Group, Large Hadron Collider (UMich Physics Dept.)** — Ann Arbor, MI
*Research Assistant* — *April 2011 – Jan 2013*

## Selected Publications

- Ethan Manilow, Patrick O'Reilly, Prem Seetharaman, Bryan Pardo. *Source Separation by Steering Pretrained Music Models.* ICASSP, 2022.
- Ethan Manilow, Curtis Hawthorne, Cheng-Zhi Anna Huang, Bryan Pardo, Jesse Engel. *Improving Source Separation by Explicitly Modeling Dependencies Between Sources.* ICASSP, 2022.
- Josh Gardner, Ian Simon, Ethan Manilow, Curtis Hawthorne, Jesse Engel. *MT3: Multi-Task Multitrack Music Transcription.* ICLR, 2022. **Spotlight Presentation** (Top 5%)
- Yusong Wu, Ethan Manilow, Yi Deng, Rigel Swavely, Kyle Kastner, Tim Cooijmans, Aaron Courville, Jesse Engel, Cheng-Zhi Anna Huang. *MIDI-DDSP: Detailed Control of Musical Performance via Hierarchical Modeling.* ICLR, 2022 **Oral Presentation** (Top 1%). NeurIPS 2021 CtrlGen Workshop **Outstanding Paper Award**.
- Hugo Flores Garcia, Aldo Aguilar, Ethan Manilow, Bryan Pardo. *Leveraging Hierarchical Structures for Few-Shot Musical Instrument Recognition.* ISMIR, 2021. **Best Paper Award**
- Ethan Manilow, Gordon Wichern, Jonathan Le Roux. *Hierarchical Musical Instrument Separation.* ISMIR, 2020. **Best Poster Presentation**, *and* **Best Video Presentation**
- Ethan Manilow, Prem Seetharaman, Bryan Pardo. *Simultaneous Separation and Transcription of Mixtures with Multiple Polyphonic and Percussive Instruments.* ICASSP, 2020.

## Projects

**Audacity (Audio Editor)** | *Advisor* — 2021 – Present
- Added ability to deploy & run Deep Learning models locally, within the editor.

**Music Source Separation Tutorial eBook** | *Author and Lead Developer* — 2020
- Online, interactive book presented as a tutorial at ISMIR 2020.

**DDSP: Differentiable Digital Signal Processing** | *Developer* — 2020 – Present
- Library for using DSP components with neural nets.

**Slakh** | *Lead Developer* — 2019 – Present
- Dataset of mixes, stems, and MIDI for source separation & music transcription.