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.