Christopher **ICK**

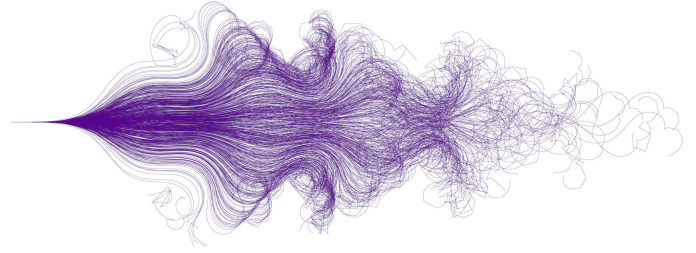**New York University 2017 | BS Physics**
New York University 2025 | PhD Data Science

@ Chris.Ick@nyu.edu   📱 +1 908 917 1889
github.com/ChrisIck   in linkedin.com/in/chris-ick
i https ://chrisick.github.io/

I am a researcher currently finishing my PhD at NYU's Music and Audio Research Lab (MARL) via NYU's Center for Data Science. I plan to defend my dissertation in May of 2025. I've done some research in astrophysics and neurobiology, but most of my PhD has been spent contributing methods in spatial audio, acoustic simulation, and signal processing for machine learning. I've had successful research internships at Mitsubishi Electric Research Labs (MERL), Sonos, Bosch, and Amazon Music, and I've shared work at leading conferences including ICASSP, NeurIPS, and DCASE. I'm currently pursuing full-time research roles.

📖 Publications

> Y. Masuyama, G. Wichern, F.G. Germain, **C. Ick**, J. Le Roux, "Retrieval-Augmented Neural Field for HRTF Upsampling and Personalization," *IEEE ICASSP*, 2025

> R.E. Peterson, A. Tanelus, **C. Ick**, et al. "Vocal Call Locator Benchmark (VCL) for localizing rodent vocalizations from multi-channel audio," *NeurIPS*, 2024

> I.R. Roman*, **C. Ick***, et al. "Spatial Scaper : A Library to Simulate and Augment Soundscapes for Sound Event Localization and Detection in Realistic Rooms," *IEEE ICASSP*, 2024

> **C. Ick**, B. McFee, "Leveraging Geometrical Acoustic Simulations of Spatial Room Impulse Responses for Improved Sound Event Detection and Localization, " *DCASE Workshop*, 2023

> **C. Ick**, A. Mehrabi, and W. Jin, "Blind Acoustic Room Parameter Estimation Using Phase Features, " *IEEE ICASSP*, 2023

> M. Hübner, D. Huppenkothen, P. Lasky, A. Inglis, **C. Ick**, and D. Hogg, "Searching for quasi-periodic oscillations in astrophysical transients using Gaussian processes," *The Astrophysical Journal*, 2022

> L. Bondi*, G. Chuang*, **C. Ick***, A. Dave*, et al.; "Acoustic Imaging aboard The International Space Station (ISS) : Challenges and preliminary results," *IEEE ICASSP*, 2022

> **C. Ick** and B. McFee, "Sound Event Detection in Urban Audio with Single and Multi-Rate PCEN," *IEEE ICASSP*, 2021

📈 Workshops and Presentations

> **C. Ick**, G. Wichern, Y. Masuyama, F.G. Germain, J. Le Roux, "Impulse Response Estimation Using Neural Acoustic Fields With Retrieval-Based Pretraining," *GenDA Workshop, IEEE ICASSP* 2025

> **C. Ick**, G. Wichern, Y. Masuyama, F.G. Germain, J. Le Roux, "Spatially-Aware Losses for Enhanced Neural Acoustic Fields," *Audio Imagination Workshop, NeurIPS*, 2024

> M. Buisson*, **C. Ick***, Q. Xi, B. McFee, "Zero-Shot Structure Labeling with Audio and Language Model Embeddings," *Late Breaking Demo, ISMIR*, 2024

> **C. Ick** and V. Lostanlen, "Learning a Lie Algebra from Unlabeled Data Pairs," *Deepmath Conference*, 2020

*Equal contribution

⧗ In Review

> **C. Ick**, G. Wichern, Y. Masuyama, F.G. Germain, J. Le Roux, Title TBA, *In review*, 2025

> Y. Masuyama, G. Wichern, F.G. Germain, **C. Ick**, J. Le Roux, Title TBA, *In review*, 2025

> Y. Masuyama, G. Wichern, F.G. Germain, **C. Ick**, J. Le Roux, Title TBA, *In review*, 2025

🏆 Honors and Awards

> **2024** Winner : Listener Acoustic Personalisation (LAP) Challenge
> **2019** Urban Scholars Research Fellowship (NYU)
> **2018** DeepMind Fellowship
> **2016** Dean's Undergraduate Research Fund (3x)
> **2015** Sigma Pi Sigma Inductee, Dean's Undergraduate Research Fund (2x)

🎓 Education

**May 2025
(Anticipated)**

Doctor of Philosophy, Data Science, New York University
> Advised by Prof. Brian McFee, Music and Audio Research Lab (MARL)
> Coursework in Deep Learning, Recommender Systems, Time Series Analysis, MIR
> Transfer from Masters in Data Science Program

May 2017

Bachelor of Science, Physics, New York University
> Minors : Computer Science / Math
> Dean's List, Graduated with Honors

💼 Professional Experience

**March 2025
June 2024**

Mitsubishi Electric Research Laboratories, Cambridge, MA
Research Intern
Advisors : Gordon Wichern, Yoshiki Masuyama, François Germain, Jonathan Le Roux
Developing neural acoustic fields based methods incorporating novel approaches for improved spatial characteristics (*Early results presented at NeurIPS 2024 Audio Imagination Workshop, accepted to IEEE ICASSP 2025, additional publications pending*).

**August 2022
June 2022**

Sonos, Boston, MA
Advanced Technology Intern
Advisors : Wenyu Jin, Adib Mehrabi
Developed algorithms and datasets for blind room parameter estimation w/ CNNs for use in smart speaker technologies (*Results published in ICASSP 2023*)

**August 2021
May 2021**

Robert Bosch LLC, Pittsburgh, PA
Audio AI Intern
Advisors : Luca Bondi, Samarjit Das
Designed dynamical acoustic simulations for replicating audio imaging experiments onboard the international space station (*Results published in ICASSP 2022*)

**August 2019
May 2019**

Amazon Music, San Francisco, CA
Applied Scientist Intern
Advisors : Emile Richard, Katherine Ellis, Gert Lanckriet
Developed algorithms for cover song detection in the Amazon Music catalog, improving recall by over 60%

**September 2018
May 2017**

NYU Physics Department, New York, NY
Junior Research Associate
Advisors : David Hogg, Kyle Cranmer
Developed Gaussian process models for estimating solar flare oscillations and low-count dark matter detection experiments (*Results published in Astrophysics Journal 2022*)

🚲 Personal Interests

Exercise : Road Cycling/Cyclocross, Rock Climbing, Snowboarding, Scuba Diving
Technology : Self-hosted media/networking server, DIY electronics, Super Smash Bros. Melee
Artistic : Film photography, Synthesizers, Classical and Jazz piano
Community : Greene Hill Food Co-op Owner/Member, Jane Bailey Community Garden Events Committee