

# MICHAEL GANCZ

they/them

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## EDUCATION

<b>Artist Diploma in Music</b> <i>great distinction</i> Koninklijke Beiaardschool 'Jef Denyn' <i>Thesis: "But Whose Voice is Singing? Topics and Methods in Adapting 'Global' Music for the Carillon"</i>	<b>June 2023</b> Mechelen, BE
<b>Master of Arts in Music Theory</b> Yale University <i>Thesis: "Technological Determinism and the New New Music: The Nature of Intelligent Life is to Destroy Itself"</i>	<b>May 2022</b> New Haven, CT
<b>Bachelor of Arts in Music (intensive)</b> <i>summa cum laude, with departmental honors</i> Yale University <i>Focus: Music composition</i>	<b>May 2022</b> New Haven, CT

## RESEARCH EXPERIENCE

<b>Sound Spatialization Researcher</b> <i>XR Pediatrics</i> Developing screenless extended-reality health and education interventions for children with special sensory, motor, and social needs. Conducting biofeedback, perception, and pain mitigation analysis.	<b>Nov 2024 - Present</b> New Haven, CT
<b>Postgraduate Research Associate</b> <i>Mark Gerstein Laboratory</i> Adapted and optimized evolutionary variational autoencoders to solve common music information retrieval (MIR) tasks including genre and period prediction. Designed an <i>in-silico</i> perturbation pipeline for the Linear Network of Cell-Type Phenotypes (LNCTP), which combines a gene regulation network imputation model and a neurodegenerative phenotype prediction model to link gene expression variations to common disorders. Wrote commentary articles on explanatory and ethical considerations behind machine learning interpretability, and on data privacy. Used Python, MATLAB, Slurm, and Adobe Illustrator; worked with large protected datasets.	<b>June 2023 - August 2024</b> New Haven, CT
<b>Research Fellow</b> <i>Belgian American Educational Foundation</i> Wrote a technical ethnography of diversity, equity, and inclusion initiatives for carillon, focusing on the cultural context and efficacy of various repertoire diversification methods. Interviewed 20+ historians, musicians, publishers, and cross-cultural interlocutors. Employed Latent Dirichlet Allocation topic modeling to support large-scale text analysis. Processed and presented data trends in large folk music databases and collections, and created original datasets.	<b>October 2022 - June 2023</b> Mechelen, BE
<b>Undergraduate Research Associate</b> <i>Mark Gerstein Laboratory</i> Processed and analyzed datasets of symbolic music. Investigated synergies between bioinformatics methodologies and open problems in computational musicology. Developed an expectation-maximization algorithm to tune hyperparameters of a latent music classification model.	<b>December 2020 - August 2022</b> New Haven, CT

## MUSIC TECHNOLOGY EXPERIENCE

<b>Blended Reality Expert</b> <i>Center for Collaborative Arts and Media</i> Designed and installed an 8-channel ambisonic (3D audio) array and an accessible UI. Directed budget, workflow, schedule, performances, and institutional partnerships related to the ambisonic array.	<b>December 2021 - August 2022</b> New Haven, CT
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**Recording Studio Manager****September 2019 - May 2022**

Yale University

New Haven, CT

Spearheaded program development for a new community recording studio over the course of four years. Taught audio engineering courses and manager certification courses to 200+ students, recruited and booked guest engineers, maintained hardware and software. Engineered and consulted on a variety of project types, including music, podcasts, and sound design.

**Laboratory Assistant****June 2020 - November 2020**

Yale Music Technology Laboratory

New Haven, CT

Maintained music hardware and software for educational studio spaces. Assisted in web design, outreach, and community development efforts.

**Apprentice to Dr. Kathryn Alexander****June 2020 - August 2020****Media Production Assistant****August 2017 - May 2018**

Yale School of Music

New Haven, CT

Used ProTools to edit and prepare classical music recordings. Rigged microphone and camera arrays in concert halls, and assisted in live audio engineering.

**Freelance Musician**

Compose, produce, and perform sound and music for stage, screen, and web. Utilize Ableton, Logic, ProTools, Melodyne, Max/MSP/Jitter, C#, Unity, HTML/CSS/Javascript, and other multimedia tools. Premiere new works at major festivals and workshops including SICPP (NEC), SōSI (Princeton), and Ostrava Days.

**PUBLICATIONS** (\* first or co-first author; ^ revise and resubmit in progress)

Prashant S. Emani, ..., **Michael Gancz**, ... et al 2024. Single-cell genomics and regulatory networks for 388 human brains. *Science* 384, eadi5199. doi.org/10.1126/science.adi5199

Jonathan Warrell, Leonidas Salichos, **Michael Gancz**, and Mark B. Gerstein 2024. Latent Evolutionary Signatures: A General Framework for Analyzing Music and Cultural Evolution. *J. R. Soc. Interface*. 21:20230647 doi.org/10.1098/rsif.2023.0647 \*

**Michael Gancz** 2024. Methods for Analyzing Carillon Repertoire Diversity Initiatives. *Carillon and Bell Culture in the Low Countries* 3:1. https://doi.org/10.5117/BKL2024.1.003.GANC \*

Jonathan Warrell, **Michael Gancz**, Hussein Mohsen, Prashant Emani, and Mark B. Gerstein 2024. Interpretability and Implicit Model Semantics in Biomedicine and Deep Learning. *Nature: Machine Intelligence* \*^

**CONFERENCE PRESENTATIONS**

**Michael Gancz**. 'Doing Diversity' through Repertoire: Local Imaginations of the Global in Three Songbooks for the Carillon. University of Michigan Organ Conference, 2023.

**Michael Gancz**. *Technological Determinism and the New New Music*. Pauli Murray College Mellon Forum, 2022.

**SERVICE AND TEACHING EXPERIENCE**

Virtual Volunteer, International Society for Music Information Retrieval Conference	2024
Founding Co-Director, Scale & Bones Trombone Choir	2017 - 2022
Trombonist, Yale Jazz Ensemble & Yale Undergraduate Jazz Collective	2017 - 2022
Founding Director, All-Nighter Music & Arts Festival	2018 - 2022
Writing Partner, Yale University	2018 - 2022
Head Conductor, Davenport Pops Orchestra	2019 - 2022
Co-Chair, Yale University Guild of Carillonners	2020 - 2022
Writing Instructor, Warrior Scholars Project	2022

Guest Instructor, 'American Neighborhood Musics' Yale seminar	2021
Music Director, Hear Your Song @Yale	2019 - 2021
Server, Yale Community Kitchen	2019 - 2021
Guest Instructor, 'Math for poets' Yale seminar	2019

## FELLOWSHIPS, AWARDS, AND HONORS

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ASCAP Morton Gould Young Composer Award	2024
Guild of Carillonneurs in North America Emerging Artists Grant	2023
Belgian American Educational Foundation Research Fellowship	2022
Phi Beta Kappa	2022
Beekman Cannon Friends Prize (Music Dept. thesis award)	2022
Guild of Carillonneurs in North America Johan Franco Performance Prize	2021
Abraham Beekman Cox Prize	2021
Yale Domestic Summer Award	2020
Joseph Lentilhon Selden Memorial Award	2020
Yale University Guild of Carillonneurs Harkness Fellowship	2020
Michael Manzella Fellowship	2019
Yale Creative and Performing Arts Grant	2019

## LANGUAGES

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Hebrew, native  
 English, native  
 Spanish, intermediate  
 Italian, basic  
 Programming languages: Python, C#, MATLAB, HTML, CSS, Javascript