

Emma Waddell (Portfolio)

Software Engineer and Composer

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Work Experience

Software Engineer / Better Mortgage

July 2022 - Current, 3 World Trade Center, New York, NY

Works as a software engineer on natural language processing and data processing tasks.

Website Administrator / Society for Electro-Acoustic Music in the US (SEAMUS)

May 2022 - Current, New York, NY

Redesigned and maintains the website, creates animations and logos to add to the site.

Technology Director and Radio Host / WNYU Radio

January 2020 - June 2021, NYU, New York, NY

Maintained the website (Ruby on Rails), the stations' physical technology, and the online live stream. Created tutorials teaching DJs to host their shows remotely. Hosted a weekly radio show.

Research and Awards

Honors Undergraduate Thesis / SuperCollider as a Reactive Performer (2022)

Created an artificially intelligent system in SuperCollider that connects user inputted LiveCode beats with an acoustic instrumentalist.

Presented this research at the *NYU Gallatin Senior Symposium* in 2022

NYU Gallatin Dean's Award for Summer Research / Creative Neural Networks (2021)

Created a procedurally generated platformer game in Unity. User inputs and choices are fed into a creative neural network in Pure Data which generates an evolving live soundtrack for the game.

Presented this research at the *IAWM Conference* in 2022 and the *NYU Gallatin Keynote Research Conference* in 2021

NYU Gallatin Undergraduate Research Fund / Algorithmic Composition (2020)

Composed and recorded an album and interactive website consisting of four songs based on ornithological data, using biological simulations, data sonification, and musical programming.

The website was featured in the *PHREATIC!* art exhibit on Governors Island.

Published Essay in *Confluence* / Experimental Composition: Stein and Stravinsky (2021)

Undergraduate Interdisciplinary Academic Excellence Award / NYU Gallatin (2022)

Education

New York University Gallatin / September 2018 - May 2022, GPA: 3.8

BA Computer Science and Music Composition, Minor in Mathematics

Relevant Coursework:

- **Programming:** Java, Python, C#, C, Assembly, Matlab, Javascript, HTML/CSS, SQL
- **Computer Science:** Artificial Intelligence, Natural Language Processing, Computer Vision, Parallel Computing (MPI, openMP, CUDA), Computer Simulation
- **Creative Programming:** Max/MSP, Pure Data, Supercollider, GameMaker, Unity
- **Music:** Jazz Theory, Saxophone Performance, Classical Theory, Music Production