

# Emma Waddell

[Portfolio](#) | [LinkedIn](#) | [GitHub](#) | [emmarwaddell@gmail.com](mailto:emmarwaddell@gmail.com)

## WORK EXPERIENCE

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**Full Stack Software Engineer** | [Better Mortgage](#) | New York, NY July 2022 - June 2023

- Improved underwriting efficiency by enabling the simultaneous resolution of multiple fraud red flags, leveraging a third-party vendor's API for loan data verification. Owned error resolution.
- Engineered an OCR data management solution using relational databases for synchronization of user input and OCR data, and built a React admin interface to display and resolve discrepancies.
- Developed an income calculation suite for underwriters, simplifying complex calculations. This enabled users to specify years, make manual edits, and witness dynamic updates.
- **Technologies used:** Typescript, React, Python, Node, REST APIs, SQL, Docker, Git, HTML/CSS

**Software Designer & Developer** | [Trinity College](#) | Hartford, CT June 2020 - June 2023

- Digitized the MIST diagnostic test to aid with administering remotely (**p5.js**)
- Built a system to collect user data as the test was taken to aid in the diagnostic process

**Technology Director & Radio Host** | [WNYU Radio](#) | New York, NY January 2020 - June 2021

- Updated and maintained the website (**Ruby on Rails**), live stream (**Cron**), and station technology
- Developed comprehensive video tutorials to facilitate remote hosting for DJs during COVID-19
- Hosted a weekly two hour radio show with curated musical content and live interviews

## RESEARCH

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**SuperCollider as a Reactive Performer** (Honors Undergraduate Thesis)

- Built a Q-Learning system in **SuperCollider** that can generate beats of varying intensities while following an acoustic performer.

*Presented at: [NERD Summit](#) (2023), [Harvestworks](#) (2023), [Ensemble Evolution](#) (2022)*

**Creative Neural Networks For Live Video Game Soundtracking** (NYU Dean's Research Award)

- Created a procedurally generated platformer game in **Unity**. User choices are fed into a neural network in **Pure Data** which generates a live soundtrack based on user choices.

*Presented at: [IAWM Conference](#) (2022), [NYU Gallatin Keynote Research Conference](#) (2021)*

**Bird Ring Album and Interactive Web Exhibit** (NYU Undergraduate Research Fund)

- Composed and recorded an album and [interactive website](#) in p5.js (**Javascript**) consisting of four songs based on ornithological data using simulations (**Java**) and visualizations (**Max/MSP/Jitter**)

*Presented at: [PHREATIC!](#) exhibit on Governors Island (2021), [NYC Audubon House](#) (2022)*

## EDUCATION

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**NEW YORK UNIVERSITY GALLATIN** 2018-2022

B.A. Computer Science and Music Composition, Minor in Mathematics | GPA 3.8 / 4.0

**Graduation Awards:** Undergraduate Interdisciplinary Academic Excellence, Founders Day Award

**Coursework:** NLP, Computer Vision, Parallel Computing, Operating Systems, Computer Simulation