Emma Waddell

Portfolio | LinkedIn | GitHub | emmarwaddell@gmail.com

WORK EXPERIENCE

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

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

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: Computer Simulation (MATLAB), Algorithmic Composition, Computer Music Theory