NOAH SCHAFFER

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Bio

I am a fourth year BS/MS student in Computer Science at Northwestern University. My research interests lie at the intersection of Machine Learning and Digital Signal Processing, specifically source separation, generative models for audio, and sound event detection

Education

Northwestern University
B.S./M.S. Computer Science *Sept. 2018 - June 2022*
- GPA: 3.9/4.0

Professional Experience

Research Assistant Apr. 2021 – Present
Northwestern University - Interactive Audio Lab *Evanston, IL*
- Conducts research in audio source separation under the supervision of Professor Bryan Pardo
- Uses Generative Adversarial Networks to improve the quality of source separation output

Software Engineering Intern – Digital Architecture June 2020 – Mar. 2021
Caterpillar Inc. *Remote*
- Built the backend framework for a telematics visualization application used by Caterpillar data scientists to detect anomalies and identify trends in truck data
- Built a data pipeline to automatically ingest and update telematics data from an S3 bucket into a Snowflake database
- Built a Cloudwatch dashboard for visualizing ingestion metrics from the Snowflake data pipeline

Projects

Make it Sound Good (MSG) May 2021 – Present
- Used a Generative Adversarial Network to post-process the output of audio source separation
- Work presented at the Music Demixing Workshop at 2021 International Society for Music Information Retrieval (ISMIR) Conference

Teaching

Undergraduate Teaching Assistant Spring 2021, Fall 2021
Northwestern University - CS 349 (Machine Learning) *Evanston, IL*
- Holds weekly office hours for students, grades weekly assignments, responds to questions on online forum

Coding Camp Director and Instructor Jul. 2019 – Aug. 2021
Beyond Limits Academic Program *Stamford, CT*
- Designed and taught an introductory coding course for 6th to 9th graders that focused on web development in HTML and CSS and computer programming in Python
- Provided guidance to future instructors of the course, which was taught again the following school year

Awards

McCormick School of Engineering Summer Research Grant 2021
Northwestern University

McCormick School of Engineering High Honors Fall 2018, Winter 2021, Spring 2021
Northwestern University

McCormick School of Engineering Honors Fall 2018 - Spring 2021
Northwestern University

Skills

Languages: *Expert:* Python, *Intermediate:* Java, C++, JavaScript, SQL, MATLAB
Machine Learning: *Expert:* PyTorch, Numpy, Scipy *Intermediate:* Scikit-learn
Web Development: *Intermediate:* React Native, React.js, Flask
Developer Tools: AWS (Mechanical Turk, Lambda, S3, EC2, DynamoDB, API Gateway), Snowflake

Extracurriculars

Northwestern University Marching Band Sept 2018 – present
Member, Percussion Captain (2021)

- Performs at every home football game as well as many University-sponsored events

Phi Mu Alpha Sinfonia Music Fraternity Jan 2019 – Present
Philanthropy Chair

- Responsible for organizing events where chapter choir sings for patients at local hospitals
- Organized and managed chapter Relay for Life team