Evan Matthews

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EDUCATION

University of Illinois Urbana-Champaign August 2023 – May 2025

M.S. in Computer Science
- Thesis: *Text Recaptioning for Audio Diffusion Models*
- Coursework: Machine Learning for Signal Processing, Generative Audio Models, Computer Vision, Machine Learning for Computer Vision, Data Mining, Numerical Analysis.

University of Illinois Urbana-Champaign August 2019 - May 2023

B.S. in Computer Science + Music
- FAA James Scholar | Dean's List: Fall 2019, Spring 2020, Spring 2021
- Coursework: Algorithms & Models of Computation, Artificial Intelligence, Computation and Music, Electroacoustic Techniques, Systems Architecture, Data Structures, Database Systems.

PROJECTS AND RESEARCH

Text Recaptioning for Audio Diffusion Models August 2024 – May 2025

Advisor: Paris Smaragdis
- Masters thesis on rewording and conditioning text prompts for variability in audio generation.

CLAIP: Ouput Comparison on Features of Differing Modalities May 2025

Collaborator: Jay Mahajan
- Contrastive Learning for audio-image pairs to compare output features and perform conditional generation.

A Case for Bayesian Grading May 2024

Co-Authors: Victor Zhao, Yuxuan Chen | Advisors: Craig Zilles, Matthew West
- Probabilistic analysis of student grade trustworthiness, given proctored, unproctored exam scores.
- Published in SIGCSE 2024 Virtual Conference.

Nearest Neighbor Classication for Classical Image Upsampling December 2023

Co-Author: Nicolas Prate
- KNN Interpolation, Dynamic-Ratio and Selective Upsampling to compete with machine learning methods.

Transcribing Monophonic Audio with Deep-Learning Data May 2023

Co-Author: Kevin Zhou | Advisor: Zuofu Cheng
- Undergraduate Capstone project: develop models to transcribe audio recordings directly into sheet music.

EXPERIENCE

Teaching Assistant January 2021 – Present

Graduate, Undergraduate *Urbana, IL*
- Courses: Machine Learning for Signal Processing, Audio Computing Laboratory, Intro to Computer Systems, Electronic Music Synthesis.

Session Co-Chair November 2024 – February 2025

CSL Student Conference 2025 *Urbana, IL*
- Organized and led the Machine Learning and Signal Processing (MLSP) session.
- Managed the session's schedule, including the selection of presenters, invited student speakers, and necessary travel accomodations.

Product Manufacturer November 2021 – August 2022

Haken Audio *Champaign, IL*
- Produced and debugged state-of-the-art MIDI keyboards and controllers.
- Received additional training with SHARC audio processors, DSP concepts, MIDI and MIDI controllers.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, CUDA, Javascript, OCaml, SQL, LaTeX, Mojo, Bend
Libraries & Tools: SciPy, Matplotlib, PyTorch, SKLearn, Pandas, OpenCV, Librosa, TensorFlow, Keras, Git/GitHub, Docker, GCP, AWS, Linux

(Updated 06/16/25)