

Adrian Hoffer

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Available from June 2025, onwards

EDUCATION

Northwestern University <i>Bachelor of Arts and Master of Science Combined Degree in Computer Science</i> • Grade Point Average: 3.8/4.0 Relevant Coursework: Data Structures and Algorithms, Intro to Artificial Intelligence, Discrete Math, Computer Systems, Microprocessor Design, Causal Inference, Linear Algebra, Machine Learning, Deep Learning Awards: Dean's List (5x)	Evanston, IL September 2020 – June 2024
Northwestern University <i>Master of Science in Computer Science</i>	Evanston, IL Exp. September 2024 – June 2025

EXPERIENCE

Machine Learning Research Assistant <i>Audio Lab, Northwestern University</i> • Research oriented towards utilization of machine learning models for audio generation and modification • Explored and implemented transformer-based models for linguistic watermarking using CUDA and PyTorch • Refined model encoder-decoder architecture hyperparameters to produce more effective audio watermarks	June 2024 - Present Evanston, IL
Software Engineering Intern <i>Publicis Sapient</i> • Deployed a React.js application for users to track their spending, using OpenAI's API suite for trend analysis • Added data visualization via ApexCharts and Chart.js, presenting users with immediate breakdowns of expenses • Employed agile methodology including daily Scrum to complete deliverables in weekly sprint time blocks • Leveraged MongoDB and AWS for database and deployment hosting, enabling team to present to fifty people	June 2023 - August 2023 Chicago, IL
Introduction to Artificial Intelligence Peer Mentor <i>Northwestern University</i> • Conducted interactive office hours for a class of 250 students, providing guidance on Artificial Intelligence concepts • Mentored students on topics including Min-Max, Forward Checking, Computer Vision, and stochastic algorithms • Supervised students' coding by aiding in troubleshooting and delivering constructive feedback on code • Collaborated within a team of nine peer mentors, ensuring consistent and effective support for students' needs	March 2023 - June 2023 Evanston, IL

PROJECTS

Hand Tracker Game <i>Python, Flask, OpenCV, Mediapipe, Threading</i> • Designed an interactive puzzle solving game where users must control block by pointing in their webcam • Utilized OpenCV and Mediapipe to record users and segment fingers on their hand in order to predict gestures • Employed Python threading library to allocate concurrent application tasks to maintain responsiveness	July 2024 – August 2024
Home Security System <i>C, DMA, I2C, UARTE</i> • Engineered robust home security system using micro:bit microcontroller in C, focusing on reliability and efficiency • Implemented I2C protocol for daisy-chaining sensors, ensuring streamlined communication and data handling • Combined infrared sensor with electromagnetic reed switch for intruder detection, producing millisecond fast alerts	October 2023 – November 2023
LyricAI Music Video Generator <i>Flask, JavaScript, Python, React.js, SQL</i> • Advised team developing software to transform mp4 audio files into generated music videos synced up to lyrics • Applied Deforum Stable Diffusion by Stability.AI to convert song lyrics into a corresponding visualization as a music video, giving many users access to cheap content generation, serviced over a Flask and React.js web app • Implemented secure sign-in and persistent storage via SQL, enabling users to access and download videos with ease	September 2022 – December 2022

SKILLS

Languages: Python, C/C++, C#, JavaScript, Java, Dr. Racket, HTML/CSS, TypeScript, Assembly x86
Frameworks: React.js, Node.js, Express.js, TensorFlow, PyTorch, Flask, CUDA, Git
Libraries: pandas, NumPy, jQuery, MaterialUI, Bootstrap, axios, matplotlib, scikit-learn, keras