Adrian Hoffer

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Available from June 10, 2025, onwards

Education

Northwestern University — Evanston, IL

Bachelor of Arts and Master of Science Combined Degree in Computer Science — *September 2020 – June 2024*

- **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)

Northwestern University — Evanston, IL

Master of Science in Computer Science — *Exp. September 2024 – June 2025*

Experience

Machine Learning Research Assistant — June 2024 - Present

Audio Lab, Northwestern University — *Evanston, IL*

- 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

Software Engineering Intern — June 2023 - August 2023

Publicis Sapient — *Chicago, IL*

- 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

Introduction to Artificial Intelligence Peer Mentor — March 2023 - June 2023

Northwestern University — *Evanston, IL*

- 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

Projects

SchoolSage Web App — November 2023 – December 2023

Firebase, JavaScript, React.js

- Designed app to connect tutors in college to students in need of mentoring, matching them based on subject
- Featured responsive user interface that dynamically matched the profile of the user
- Hosted and deployed application via Firestore, with email sign in and persistent database storage

LyricAI Music Video Generator — September 2022 – December 2022

Flask, JavaScript, Python, React.js, SQL

- 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

Home Security System — October 2023 – November 2023

C, DMA, I2C, UARTE

- 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

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