

Ethan Chen

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EDUCATION

University of Illinois at Urbana Champaign

Bachelor of Science in Computer Science + Music

Sep. 2021 - Present

Coursework: Applied Machine Learning, Database System, Artificial Intelligence, Deep Learning for Computer Vision, Natural Language Processing, Computer System, Data Structure, Algorithms and Models. **GPA:** 3.74

EXPERIENCE

Enterprise AI Service

AI Developer

Jun. 2024 - Oct. 2024

- Developed a customer support AI chatbot in **Python** for Nutr (Shark Tank company), boosting sales by **35%**.
- Automated email outreach by pipelining **LLMs** and prompt engineering, increasing readers engagement rate by **10x**.
- Implemented vector embedding with **Pinecone**, reducing **ChatGPT API** costs by **90%**.
- Built robust web scrapers in **Python** and **Javascript** to engineer e-commerce and social media sites data.

Chief Information Officer

Oct. 2024 - Present

- Led the project development of "CreatoRain," a platform designed to automate influencer marketing with **AI**.
- Created a database of **1.4 million** influencers using **PostgreSQL** and **Milvus**, deployed on **AWS EC2**.
- Presented **AI-driven** solutions at **IMTS** and **IFT** conferences, securing new clients across various industries.

PROJECTS

Algophony (Deep Learning, Generative AI)

Developer (class project)

Jan. 2024 - May 2024

- Spearheaded "Algophony," an AI music generation project, training **deep learning** models (**CVAE** and **GAN**) in **PyTorch**.
- Engineered over **500GB** of audio training data, employing tools like **NumPy** and **Pandas**.
- Optimized data processing with **batch** and **parallel processing** techniques, reducing computation time by **85%**.
- Led a cross-functional team of **4** web developers and data scientists, organizing weekly code reviews and tracking progress.

LoopBop (Web Dev, Graph Database)

- Developed a "Duolingo style" trainer for AI music prompting as a full stack app, utilizing **TypeScript**, **Next.js**, and **React**.
- Powered dynamic quizzes by building a music database with **Neo4j**, enabling users to explore and grasp musical concepts.
- Implemented user management systems with **MongoDB**, verifying users, tracking progress, and maintaining a scoreboard.

Reinforced Poker (Reinforcement Learning)

- Trained an AI poker bot using **Q-Learning**, consistently outperforming algorithmic bots and average players.
- Simulated **15 million** games efficiently, running critical components in **C/Cython** and reducing training time by **30x**.
- Deployed the bot to play against human players using **Javascript** and **jQuery**, enabling continuous improvement.

Bubble Synth (Web Dev, Signal Processing)

- Developed a one of a kind music generator that creates evolving soundscapes stochastically.
- Designed a creative user interface allowing users to drop random bouncing bubbles to control the sounds.
- Leveraged **Tone.js** as the sound engine and optimized **React** hooks to minimize latencies during real-time signal processing.

Hot or Not (Machine Learning, Web Dev)

- Scraped data of thousands of TikTok hits for hit song prediction, extracting over **70** features per data point.
- Fine-tuned an ensemble of **classification models** (RF and Boosted Trees), achieving **91%** accuracy and a **0.68 F1** score.
- Developed a **Streamlit** app to visualize data distributions, enhancing user experience and engagement.

Genrify (Machine Learning, Web Dev)

- Created a web service for Spotify users to organize liked songs into themed playlists.
- Utilized **Spotify API** to obtain data and stored song data in **Redis** database for fast access.
- Applied **K-means** clustering to group similar songs, enabling automatic generation of themed playlists.

SKILLS

Python, C/C++, JavaScript/TypeScript, Java, Scala, Swift
React, SQL, PyTorch, Next.js, Django, Neo4j, MongoDB, Git, Docker, AWS, GCP