Ernie Wang

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Objective

Seeking summer internship opportunities in the fields of computer science, software engineering, data science, and machine learning.

Education

Northwestern University
B.A., Computer Science and B.Mus., Jazz Studies (Dual-Degree)
Anticipated Graduation: June 2025
GPA: 3.74/4.0

Selected Coursework

Fundamentals of Computer Programming 1, 1.5, 2

Mathematical Foundations of Computer Science	Data Structures and Algorithms
Linear Algebra	Statistics
Introduction to Computer Systems(e)	Machine Learning (e)

Projects

NotesR.US

notesr.us is a web toolbox for musician. It let musicians effortlessly generate and edit sheet music, add chord notations to imported sheet music, generate chord progression and backing tracks and export MIDI files. It can also turn sound pitches into music notes using deep learning. The app's front-end is written in Javascript with React. The API back-end is written in Python.

MusicABC Search Engine

Wrote a search engine using the Python Scrapy framework to gather music sheets in ABC notations. The music sheets were feed into a database with indexes so they can be easily searched. With over 300,000 music pieces in the database, most searches take less than 0.005 second to run. A React web frontend was set up in front of the database to allow users to quickly find and play music. It can be accessed from: `https://www.musicabc.us`.

Maze game

Developed a maze game where a player tries to solve randomly generated mazes of increasing difficulties. The game was implemented with the GE211 game engine and followed the Model-View-Controller design pattern. The game was written in C++. The maze generator part was written in Python.

Skills

Programming Languages:
Python, Javascript, C, C++, Java, Racket
OS and Softwares:
Linux, VsCode, MsOffice, Google Workspace, PhotoShop, Final Cut Pro, Logic Pro, Finale
Foreign Languages:
Fluent in Mandarin Chinese

Activities

Northwestern University Jazz Orchestra
Jazz Small Ensemble