

Colin Hwang

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EDUCATION

The Cooper Union, NY, NY

Bachelor of Engineering, Electrical Engineering, Projected May 2024

Cumulative GPA: 3.52; Computer Science GPA: 3.81

Relevant Courses: Data Structures and Algorithms, Artificial Intelligence, Computer Architecture, Natural Language Processing, Frequentist Machine Learning, Operating Systems, Databases.

PROJECT EXPERIENCE

Schedule Planner, Databases

October 2022-December 2022

- Developed a schedule planner website designed for Cooper Union students to aid them in navigating the complex prerequisite and corequisite relationship between courses.
- Utilizes a script to populate a configured SQL database by fetching the list of all courses taught at The Cooper Union along with their prerequisites.
- Implemented the frontend as a Vue Single-Page Application, allowing students to sign in and add courses to their schedule for specific semesters.

Market Basket Analysis, Frequentist Machine Learning

October 2022-December 2022

- Implemented the Apriori algorithm in Python to perform market basket analysis on a dataset measuring students' performance in school based on a multitude of features.
- Experimented with support and confidence values to formulate association rules that describe meaningful patterns and relationships between both the features and the labels.

Sentiment Analysis on Game Reviews, Natural Language Processing

April 2022-May 2022

- Utilized Python and Keras to develop a neural network capable of predicting game reviews.
- Trained and tested the neural network using a dataset consisting of approximately 5,000 game reviews taken from GameStop's website.
- Final architecture consisted of an embedding layer, two fully connected recurrent neural network hidden layers, and a dense layer with SoftMax activation.

Checkers AI, Artificial Intelligence

September 2021-November 2021

- Implemented a game playing program in C++ that plays checkers against the user with the capability to win against an above average player.
- Combines iterative deepening, minimax search with alpha beta pruning, and a heuristic function to search the game space for ideal moves.

PROFESSIONAL EXPERIENCE

Software Engineering Intern, Applause

May 2022-August 2022

- Refined and tested an algorithm essential for the development for the next generation of VR devices.
- Worked in a fast-paced environment and collaborated with colleagues to ensure deliverables were met to standard and presented to clients in an efficient and timely manner.

TA, The Cooper Union's Saturday STEM Program

October 2021-March 2022

- Enabled students to develop familiarity with extended reality and aided students with developing skills in engineering design, computer aided design, and web-based programming.
- Assisted student teams in developing multiple projects, digital portfolios, and final presentations involving using CAD, HTML, and JavaScript to prototype and develop enhancements to in game objects.

TECHNICAL SKILLS

Languages: C, C++, C#, Python, Java, JavaScript, MATLAB.

Software and OS: Git, Linux, Vim, Visual Studio, Logisim, LTspice, Microsoft Office, CAD.

Additional: MySQL, MongoDB, Redis, React, Next.js, Unity.