Sun A Choe

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EDUCATION

University of Southern California, Viterbi School of Engineering **GPA: 3.75 (Viterbi Dean's List)**
Bachelor of Science, Computer Science Aug 2022-May 2026
Coursework: Data Structures and OOP, Full-Stack Web Dev, Discrete Methods in CS, Intro to AI, SW Development, Game Programming
Clubs and activities: E-Board of KSEA, Undergrad Researcher at NetPD lab, Member of AI Safety, Professional Ops member of KBSO

SKILLS

- Languages/frameworks/tools: C/C++, Python, Java, SQL, JavaScript, HTML, CSS, Git, Bootstrap, AJAX, PHP, Docker, React, SDL
- Other: Machine Learning, Data Analysis, Arduino, Web Crawling, Academic Research, LLMs, Prompt Engineering

EXPERIENCE

Viterbi School of Engineering **Los Angeles, CA**
Course Producer for CSCI 170: Discrete Methods in Computer Science Jan 2024-Present
- Facilitate weekly office hours (3-4 hours) to guide ~300 students through homework and lecture material
- Grade and provide feedback on student homework and exams, focusing on delivering constructive insights for improvement
- Review and refine course content, including homework, lecture notes, exams, ensuring clarity and accuracy prior to release

HuGraph **Seoul, South Korea**
Backend Developer Intern May 2023-Jul 2023
- Advanced the backend development of HuGraph's web application, themazoo.com by writing queries in **PostgreSQL** to calculate technical stock prices indicators via relational databases on the server-side
- Effectively harnessed CI/CD pipelines with **Github** to optimize development processes and manage versions of code
- Utilized web crawling and APIs in **Python** to store financial statements of Korean companies in JSON format from dart.fss.or.kr
- Conducted research on security tokens and their valuation methods; presented to colleagues

Pioneer Research Program **Online**
Main Researcher (Supervising Professor: Julian Shun, MIT EECS department) Jul 2021-Aug 2021
- Selected as one of ~700 students out of ~3,000 global high schoolers to participate in an online research program
- Developed programs in **Python** that incorporated machine learning by deploying K-means clustering algorithm to detect masked and unmasked people during COVID-19
- Wrote 27 page research paper (link) evaluating effectiveness of programs and received an 'A', presented paper to cohort after

PROJECTS

JoesStocks (Java, MySQL, HTML, CSS, JavaScript, API) Apr 2024
- Created a stock exchange simulator web application where users can login to their personalized account and buy/sell stocks
- Utilized Finnhub's Stock **API** to fetch real-time stock data including high/low price, IPO date, market cap, etc
- Stored user-specific data such as login info, cash balance, total account value, into MySQL database using JDBC

Portal (C++, SDL library) Apr 2024
- Developed Portal, a complex 3D video game using **C++** and the **SDL library**
- Integrated enhanced gameplay features such as quaternions, sentry AI, actor parenting, voice-over trigger, and camera transform

FeelFlow.ai (HTML, CSS, PHP, Bootstrap, Javacript, API) Oct 2023-Dec 2023
- Engineered an interactive website utilizing prompt engineering that analyzes user-input text to determine emotional tone and suggests a corresponding song with **ChatGPT** and **Spotify**'s **API**
- Improved user experience by incorporating playlist creation and random song generation features

LEADERSHIP

Korean-American Scientists & Engineers Association (KSEA) **Los Angeles, CA**
Executive Board, Finance Team Aug 2023-Present
- Presented proposals to KSEA headquarters and the Viterbi school of engineering to secure necessary funding for various events
- Generated post-event reports to ensure ongoing financial support from both KSEA headquarters and Viterbi

AWARDS

1st Place in H4S Student Summer Sprint Hackathon **Online**
- Collaborated with randomly assigned team over several days and built a website that helps keep track of items in fridge and their expiration dates; constructed frontend of website using HTML and CSS Aug 2020