

Sun A Choe

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Education

University of Southern California, Viterbi School of Engineering

Bachelor of Science, Computer Science

GPA: 3.75 (Viterbi Dean's List)

Aug 2022 - Dec 2025

Coursework: Data Structures & Algorithms, Full-Stack Web Dev, Theory of Computing, Intro to AI, SW Development, Game Programming, Professional C++

Clubs and Activities: E-Board of KSEA, Undergraduate Researcher at NetPD lab, Member of AI Safety, Member of KOJOBS

Skills

Languages/frameworks/tools: C/C++, Python, Java, SQL, JavaScript, HTML, CSS, Git, Bootstrap, Android Studio, AJAX, PHP, Docker, React, SDL, Unix/Linux

Other: Machine Learning, Data Analysis, Arduino, Web Crawling, Academic Research, LLMs, Prompt Engineering, Object-Oriented Programming, Algorithms, Microsoft Office (Word, Excel, PowerPoint)

Experience

Viterbi School of Engineering

Course Producer and Tutor for CSCI 170: Discrete Methods in Computer Science

Los Angeles, CA

Jan 2024 - Present

- Facilitated weekly office hours to assist approximately 300 students with homework and lecture content, enhancing their understanding of complex algorithms and discrete math
- Graded and provided feedback on student homework and exams, focusing on constructive insights for improvement, supporting academic excellence
- Reviewed and refined course content, including homework assignments, lecture notes, and exams, ensuring clarity, accuracy, and alignment with educational objectives

HuGraph

Backend Developer Intern

Seoul, South Korea

May 2023 - Jul 2023

- Enhanced back-end development for HuGraph's web application themazoo.com by writing advanced queries in **PostgreSQL** to calculate technical stock price indicators via relational databases on the server-side
- Developed scripts using **Python** for web crawling and **API** utilization, supporting the automation of financial data collection and storage in **JSON** format
- Implemented continuous integration/continuous deployment (CI/CD) pipelines with **GitHub** to optimize development processes and maintain efficient version control

Pioneer Research Program

Main Researcher

Remote

Jul 2021 - Aug 2021

Supervising Professor: Julian Shun, MIT EECS department

- 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 evaluating effectiveness of programs and received an 'A', presented paper to cohort

Projects

Minesweeper (Java, Android Studio)

Sep 2024

- Developed a Minesweeper app with stopwatch, flag counter, and result page (win/loss) using **Java** in **Android Studio**
- Implemented efficient event handling for digging and flagging modes, dynamically updated UI, and added logic to reveal all mines when the game is lost, displaying results (win/loss) along with time after game completion

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, screen AI, actor parenting, voice-over trigger, and camera transform

FeelFlow.ai (HTML, CSS, PHP, Bootstrap, JavaScript, API)

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