Frank Liu

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EDUCATION

Princeton University Princeton, NJ
Bachelor of Science in Engineering (B.S.E) in Computer Science *Expected Graduation: May 2026*

RELEVANT COURSEWORK

Object-Oriented Programming (Java), Algorithms and Data Structures, Programming Systems (C), Discrete Mathematics, Introduction to Machine Learning, Linear Algebra, Intro to Software Engineering, Principles of Computer System Design, Data Science

PROJECTS

Word Hunt Solver and Learner | *React, Flask, Python* Summer 2024
- Leveraged React and Flask to create a web app that solves Apple's GamePigeon Word Hunt game using Depth-First Search (DFS) to find all possible words from user input
- Expanded vocabulary learning opportunities by outputting word paths and definitions using PyDictionary module

TigerSpot | *Python, Flask, JavaScript, PostgreSQL* January - May 2024
- Developed a full-stack web application using HTML/CSS, JavaScript, Flask, and PostgreSQL, creating a location guessing game for Princeton students and faculty to learn more about various locations and landmarks on campus
- Promoted campus engagement for 200+ users by designing a PostgreSQL relational database to manage leaderboards, track user ranks and points, and support an asynchronous versus mode where players compete to score points by guessing the locations of five campus images
- Ensured smooth handling of game visuals and performance using Render for deployment and Cloudinary for image storage

Midwest Showdown Game | *Java* Winter 2022
- Developed a 2D local multiplayer game with a graphical user interface using Java, utilizing object-oriented programming principles like abstraction and encapsulation and KeyListener for keyboard controls
- Implemented the Java Draw Library to create game graphics and integrated the Java Audio Library for background music

WORK EXPERIENCE

Teaching Assistant January 2024 - Present
COS226 & COS217 (Data Structures/Algorithms & Programming Systems) *Princeton, NJ*
- Chosen based on top performance in the courses; hold lab hours twice a week for 400+ students
- Assist students with debugging and optimizing code for complex data structures, algorithms, and systems programming assignments.

Product Design Intern December 2023 - January 2024
22x36 - Chinese Language Learning App *Remote*
- Researched rewards and progress-tracking gamification strategies to enhance user engagement with interactive practice features
- Explored AI tools like ChatGPT, Dall-E 3, and Anthropic to develop innovative and interactive language learning content aligned with the Hanyu Shuiping Kaoshi
- Provided insights and feedback on user experience during the initial stages of website design

Cashier May 2024 – September 2024
Wing Nook *Covington, GA*
- Assisted 100+ daily customers from walk-ins, call-ins, and online orders by processing orders, handling payments, and addressing any inquiries
- Packaged, organized, and distributed orders, maintaining a high level of accuracy and customer satisfaction

TECHNICAL SKILLS

Languages: Java, Python, C, JavaScript, HTML/CSS, SQL, Assembly, Go, R
Technologies: Flask, React.js, SQLite, PostgreSQL
Tools: Git, VS Code, IntelliJ