**Samantha J. Zhang**

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**EDUCATION**

**Cornell University**,College of Engineering, Ithaca, NY **Expected May 2023**

GPA: 3.98 • Bachelor of Science, Computer Science • Dean’s List for all semesters • Tau Beta Pi Service Chair

***Relevant Courses:*** Analysis of Algorithms | Data Structures and Functional Programming | Object-Oriented Programming and Data Structures | iOS Development | Machine Learning | Computer System Organization | Intro to Game Architecture | Discrete Structures | Computing Using Python | Digital Product Design

**RELEVANT EXPERIENCE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Epic Games,** *iOS Mobile Engineer Intern* **May 2022 – August 2022**

* Worked within a team of 7 engineers using SwiftUI, Jetpack Compose, and Kotlin Multiplatform to develop features for a new mobile app that provides editing functionality for video clips.
* Led development for public service announcement feature, enabling production team to communicate messages to userbase.
* Implemented feature allowing users to drag stickers from a sticker sheet onto a video clip to enhance the user experience.
* Researched Apple VoiceOver capabilities for sticker gesture interactions to seek accessibility for visually impaired users.

[**Cornell Nexus**](https://cornellnexus.teleporthq.app/)**,** *Software Lead* **March 2021 – Present**

* Collaborate with a diverse team of 23 students to make an autonomous robot that will collect microplastics from beaches.
* Lead team of 8 programmers, manage Jira tasks, and create cross-discipline software documentation.
* Setup Github automated test suite and pull request template.
* Design communication between GUI and Raspberry Pi and parsing telemetry data transmitted by a RF module.
* Developed real-time display for robot data such as status, geolocation, and traversal and custom command-line using Python libraries such as PySimpleGUI and Matplotlib.

**Neural Networks for Meta-Emotions,** *National Science Foundation REU Undergraduate Research Assistant* **June 2021 – July 2021**

* Amongst 10 out of 292 students selected for Georgia State’s Research Experience in Immersive Media Computing.
* Humanized NPCs by using data derived from acting footage to train a Recurrent Neural Network for determining and animating lifelike NPC facial expressions in Unity.
* Created 3D polygon meshes of actors’ faces from stills using Blender to animate and visualize results.

**PROJECTS**

[**Cupdrakes**](https://gdiac.cs.cornell.edu/temp/showcase/gallery/cupdrakes/), *Intro to Game Architecture* **Spring 2022**

* Won the audience favorite award at GDIAC 2022 showcase of 12 student games.
* Collaborated with programmers, designers, and composers daily to build a turn-based strategy game using Java.
* Implemented UI screen elements, in-game navigation system, tutorialization, and user input handling.
* Designed prototypes for game interactions in Figma.
* Iterated on level design and game elements based on playtesting and player feedback.

[**Challenge With Friends**](https://github.com/sazhang02/AppDevHackChallenge), *iOS Development*  **Spring 2021**

* Selected as best overall app in Cornell AppDev Hack Challenge against 18 student teams.
* Designed and implemented iOS app featuring tab-based navigation system, user login portal, data filtering, and encoding/decoding images using Figma and Swift.
* Integrated with backend team members’ custom API deployed on Heroku using Alamofire & CocoaPods.

[**Stuck In the Desert**](https://github.com/sazhang02/CS-3110-Final-Project), *Data Structures and Functional Programming* **Spring 2021**

* Collaborated with team members to create a fully functional RPG top-down puzzle exploration level-based game.
* Implemented main game logic and GUI using OCaml Graphics library and camlimages’.

[**Instagram Case Study**](https://medium.com/@sjz46/instagram-concept-an-alternative-to-scrolling-past-posts-7445f592b6c), *Digital Product Design* **Spring 2020**

* Designed and prototyped a custom navigation and categorization of feeds to improve Instagram user experience (UI/UX).

[**Virtual Reality World (SOHA)**](https://github.com/sazhang02/Unreal-SOHA), *Visual Imaging in the Electronic Age*  **Fall 2019**

* Developed an immersive virtual reality experience with architecture and urban planning students using the Unreal Engine.

**ADDITIONAL EXPERIENCE**

[**Cornell Engineering Peer Advisor**](https://www.engineering.cornell.edu/students/undergraduate-students/advising/peer-advisors) **August 2021 – December 2021**

[**CS 1110 Python Academic Excellence Workshops (AEW) Facilitator**](https://www.engineering.cornell.edu/aew) **August 2021 – December 2021**

**Women In Computing at Cornell (WICC) Girls Who Code Volunteer February 2020 – May 2021**

**SKILLS**

* **Programming Languages:** Java, Python, SwiftUI, Swift, OCaml
* **Applications/Tools:** Github, Figma, IntelliJ IDEA, VSCode, XCode, PyCharm, Sketch, iMovie, Unreal Engine, Unity