# Katherine Shen

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## EDUCATION

**Georgia Institute of Technology**                                                                 Atlanta, GA
*Bachelor's of Science in Computer Science, Major GPA: 3.63*                          *Aug 2020 – May 2024*
**Concentration:** Graphics & Systems Engineering/Networking
**Courses:** *Systems and Networks*, *Intro to Databases*, Algorithm Design, Computer Graphics, Computer Architecture, Applied Combinatorics, Linear Algebra, Data Structures & Algorithms, Object-Orientated Programming

## EXPERIENCE

**Georgia Tech Research Institute**                                                                  Atlanta, GA
*Research Assistant*                                                                        *Aug 2022 – Present*
- Transitioned emergency procedure manual iPad application to React webpage with newer features
- Developed Python script to parse styling information from Excel sheet database in order to render on webpage
- Added features to enhance user experience, such as allowing users to add, remove, or edit emergency manuals

**Georgia Tech Research Institute**                                                                  Atlanta, GA
*Research Software Engineering Intern*                                                      *May 2022 – Jul 2022*
- Assisted in identifying issues with user-uploaded ML models by developing an error analysis visualization tool
- Iterated continuously on various dashboard designs and visualizations to maximize user experience with React
- Designed data architecture to allow seamless communication with database in Flask and pandas

**Johns Hopkins University Applied Physics Lab**                                                     Laurel, MD
*Software Engineering Intern*                                                              *Jun 2018 – Jun 2020*
- Reduced average time for locating parking spot on APL campus with OpenCV and image recognition
- Dispatched analyzed parking spot data to drivers gathered through mobile app
- Experimented with relationships between emotional context and television subtitles using NLP techniques
- Developed lost device tracking system with Raspberry Pi by building Pseudo-GPS system with WIFi networks

## EXTRACURRICULARS

**GT Esports**                                                                                      Atlanta, GA
*Vice President, Head of Creative Department, Treasurer*                                    *Sep 2020 – Present*
- Restructured organization by interiewing/onboarding new staff and creating new procedures
- Boosted and promoted member engagement by implementing policies to increase member participation
- Managed creative team of 7 creating website, social media, and game-specific designs
- Integrated creative department into game sub-organizations to produce ad-hoc graphics for large events
- Managed budget and allocated funds for competitive teams, various events, and organization costs

## PROJECTS

**MVP** | *C, Gameboy Advanced, DMA*
- Created a simple game that required the user to move a sprite into the goal area in the shortest amount of time
- Implemented game logic with a state machine to correctly display game screens throughout playthrough
- Ensured smooth transitions and animations within the game by utilizing DMA

**gamelettr** | *Python, Websockets, Event Handling, REST APIs*
- Provided quick tournament lookup information for regional and global events through Discord bot
- Consumed Riot Games Esports API to get accurate, live tournament information
- Utilized formatting algorithms with data structures to display information sent to Discord using `discord.py`
- Developed a scheduler to deliver notifications with a stream link for upcoming matches for ease of viewing

**Energy Consumption Analysis (2020 HackGT 7)** | *Dash, Plotly.js, pandas, NumPy*
- Built to a decision tree anomaly detection model built to detect energy usage anomalies
- Visualized data output by from decision tree using Plotly graphs and a Dash app

## SKILLS SUMMARY

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|---|---|
| **Programming**: | Python, Java, JavaScript, OpenGL, HTML/CSS, TypeScript, C, LaTeX, Assembly (LC-3) |
| **Tools**: | Figma, Notion, Trello, Git, Adobe Photoshop |
| **Technologies**: | Websockets, API, Event Handling, React, Flask |
| **Languages**: | English (native), Chinese (fluent) |