

Katherine Shen

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EDUCATION

Georgia Institute of Technology

Bachelor's of Science in Computer Science

Atlanta, GA

Aug 2020 – May 2024

Concentration: Graphics & Systems Engineering/Networking

Courses: *Algorithm Design, Computer Graphics, Computer Architecture, Applied Combinatorics, Objects & Design, Discrete Mathematics, Data Structures & Algorithms, Object-Orientated Programming, Linear Algebra*

EXPERIENCE

Vertically Integrated Projects

Atlanta, GA

Getting to Know U - Provost Data Dashboard Design

Aug 2022 – Present

- o Analyzed Georgia Tech population distribution across different majors, credit hours, graduation rates, etc
- o Iterated and improved existing dashboard designs already in the provost system
- o Performed UX audits and built design systems to create dashboards for new datasets

Georgia Tech Research Institute

Atlanta, GA

Research Assistant

Aug 2022 – Present

- o Transitioned outdated flight manual iPad app to React webpage
- o Developed Python script to easily parse styling information from Excel spreadsheets

Georgia Tech Research Institute

Atlanta, GA

Research Software Engineering Intern

May 2022 – Jul 2022

- o Assisted in identifying issues with user-uploaded ML models by developing an error analysis visualization tool
- o Iterated continuously on various dashboard designs and visualizations to maximize user experience with React
- o 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

- o Reduced average time for locating parking spot on APL campus with OpenCV and image recognition
- o Dispatched analyzed parking spot data to drivers gathered through mobile app
- o Experimented with relationships between emotional context and television subtitles using NLP techniques
- o 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

- o Restructured organization by interviewing/onboarding new staff and creating new procedures
- o Boosted and promoted member engagement by implementing policies to increase member participation
- o Managed creative team of 7 creating website, social media, and game-specific designs
- o Integrated creative department into game sub-organizations to produce ad-hoc graphics for large events
- o Managed budget and allocated funds for competitive teams, various events, and organization costs

PROJECTS

MVP | *C, Gameboy Advanced, DMA*

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

gameletttr | *Python, Websockets, Event Handling, REST APIs*

- o Provided quick tournament lookup information for regional and global events through Discord bot
- o Consumed Riot Games Esports API to get accurate, live tournament information
- o Utilized formatting algorithms with data structures to display information sent to Discord using `discord.py`
- o 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*

- o Built to a decision tree anomaly detection model built to detect energy usage anomalies
- o Visualized data output by from decision tree using Plotly graphs and a Dash app

SKILLS SUMMARY

Programming:	Python, Java, JavaScript, HTML/CSS, TypeScript, C, L ^A T _E X, Assembly (LC-3)
Tools:	Figma, Notion, Trello, Git, Adobe Photoshop
Technologies:	Websockets, API, Event Handling, React, Flask
Languages:	English (native), Chinese (fluent)