Esther Cheng

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Education

Duke University, Trinity College of Arts and Sciences, Durham, NC   Cumulative GPA: 3.98   *May 2026*
Bachelor of Science in Computer Science & Psychology
National Merit Scholarship and Dean's List with Distinction (Top 10%)

Relevant Courses: Data Structures & Algorithms; Computer Architecture; Discrete Math for Computer Science; Quantitative and Qualitative Methods in User-Centered Research; Fundamentals of Decision Science; Technical and Social Analysis of Information and the Internet

Work Experience & Organizational Leadership

Duke University   **Durham, NC**
CS250 (Computer Architecture) Undergraduate Teaching Assistant (UTA)   *January 2024 – Present*
- Lead a 20-person recitation section to review and clarify course content
- Conducted weekly office hours and answered EDStem discussion questions to field students' concerns and provide assistance for homework assignments

Craven Quad Council Communications Chair   *August 2023 – Present*
- Managed a $40,000 budget for planning/supervision of dorm-wide events for over 500 undergraduate students

Pegram House Council Vice President   *August 2022 – May 2023*
- Chaired meetings with East Campus Housing administration to address dormitory concerns
- Supervised marketing and planning of monthly dorm-wide functions, cultural nights, and sporting events

Technical Skills & Projects

Skills: Java, Python, C, MIPS Assembly, JavaScript, HTML, CSS

Flowcate   **Python, CSS, HTML, JavaScript**
HackDuke Award-Winning Project: Locating Menstrual Product Dispensers on Campus   *September 2023*
- Integrated Django with Arduino in order to link dispenser boxes and their locations back to a web server
- Created a map with GoogleMaps API, JavaScript, and Python that updates in real-time as products are dispensed

Alternative Text Awareness and Usability on Social Media Networks   **Prolific, Qualtrics**
User Experience Research Study on Alt-Text Usage on Instagram   *November 2023*
- Designed a Prolific study to survey user attitudes about alternative text usage on Instagram to increase accessibility
- Surveyed 49 participants and conducted quantitative and qualitative analysis to provide future recommendations

Personal Website   **HTML, CSS, JavaScript**
Personal Website Showcasing Coding and Crocheting Projects   *January 2024*
- Utilized JavaScript, HTML, and CSS to create a personal website to practice and showcase personal endeavors

Cache Simulator   **C**
Write-Through and Write-No-Allocate Cache Simulator   *December 2023*
- Utilized a dynamically-allocated list of block structures to simulate the functionality of a write-through, write-no-allocate cache with LRU replacement
- Used bit manipulation to implement math used to find tag, index, and block offset of memory addresses

Autocomplete   **Java**
Google Autocomplete Simulator   *October 2022*
- Implemented a search autocomplete simulator through Comparators, the binary search algorithm, and a HashMap, optimizing runtime efficiency and memory tradeoffs of different use-cases

Route   **Java**
Maps Application Simulator   *December 2022*
- Utilized Djikstra's Algorithm to calculate and visualize routes and distances on the US highway network
- Implemented a GraphProcessor to store a graph representation and provide public methods to answer connectivity, distance, and pathfinding queries

Other Hobbies & Interests

Fluent in English, Spanish, & Mandarin
Crocheting, Dance, Canine Behavior