Gurpreet Singh

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EDUCATION

College of Natural Science and Mathematics, University of Houston, Houston, Texas

Bachelor of Science in Computer Science   **Spring 2025**

Cumulative GPA: 3.5

WORK EXPERIENCE

NASA Sponsored Undergraduate Student Instrument Project   **Spring 2023 – Spring 2025**

Software Team Lead & Power Team Member

- Managed a team of 14 software designers to create a payload circuit using Raspberry Pi's, Arduinos, API Libraries
- Streamlined team focus by assessing objectives and recording progress during weekly team meetings
- Operated soldering and breadboard equipment to design 2 circuit boards for signal transmission of data
- Presented systems and sciences progress to managers and team leads weekly through documented presentation
- Calculated system power requirement and determined efficient power supply source for payloads resulting in a decrease budget expense of 300$

USIP Nationwide Eclipse Ballooning Project   **Spring 2023 – Spring 2025**

System Debugger

- Created functioning balloon payload with 4 team members by developing and redesigning circuits
- Debugged camera systems allowing NASA servers to receive team data and video footage for broadcasting
- Developed and modified Pterodactyl flight computer and Pterodactyl GPS tracker to transmit balloon location
- Tested cut-off command for safe release of payload resulting in a 70% decrease of equipment damage
- Orchestrated construction of ground tracking systems resulting in functioning satellite communication

PROJECTS / EXPERIENCE

CodeRed Odyssey Hackathon   **Fall 2022**

- Led a team of 4 in development of consumer optimized web application designed for ecommerce within 24 hours
- Programmed shopping cart and checkout interface to curate ecommerce website functionality using ReactJS
- Designed the web application's front-end format and structure for access to back end programs using NodeJS
- Collaborated with team by pushing and pulling developed code using Git to maximize process efficiency
- Created and presented PowerPoint deck to showcase web application's ecommerce functionality of 90% accuracy

Battleships Game Demo   **Spring 2021**

- Formulated classes and functions to position ships with 100% accuracy, eliminating run-time/compile time errors
- Developed multiple classes of code using Java to print the structure and concept of battleship board
- Embedded scanners and interpreters to receive user inputs with a run-time maximum of 1.5 seconds
- Programmed try-catch and virtual functions to read and operate based on user input in real time
- Curated design detail to incorporate visual and sound effects to increase user retention rate

HONORS AND AWARDS

Cy-Fair Education Foundation Scholarship: Spring 2021, Fall 2022

Dean's List: Fall 2022

ACTIVITIES

CougarCS Organization   **Fall 2022 – Present**

- Constructed front-end web applications using HTML and CSS to develop site functionality
- Advised organization during monthly C++ tutor sessions and bi-monthly test prep courses

SKILLS

Fluent in English and Punjabi, Conversational in Spanish

Proficient in Java and C++, Familiar in Python, HTML, CSS, JavaScript, React, Arduino and Git