REED GUNN

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EDUCATION

Northwestern University **Evanston, IL**
Bachelor of Science, Computer Science, GPA: 3.50/4.00 *Sep 2023 - Jun 2027*
Relevant Coursework: Data Structures & Algorithms (Racket), Fundamentals of Computer Programming 1, 1.5, and 2 (Racket, Python, C/C++), Engineering Analysis 1, 2, and 3 (MATLAB, linear algebra, 3D statics, mechanical/electrical systems dynamics)

TECHNICAL SKILLS

Languages: Python, Java, SQL, JavaScript, HTML, C, C++, CSS, C#, MATLAB, PHP, Racket
Tools & Frameworks: GitHub, Git, Unity, MySQL, Node.js, Selenium

PERSONAL PROJECTS

Sleep Schedule Generator App
- Developed app using Unity (C#) that takes in user's birthday, time it takes to fall asleep, and desired wake-up time, and outputs best possible recommendation for how much sleep they need per day to nearest 5 minutes, and their ideal bedtime
- Sleep-needed algorithm is based on thorough analysis and interpretation of study from National Sleep Foundation. 'Look behind the scenes' button available to view a brief slide detailing methodology and research behind algorithm
- Implemented robust algorithm that calculates user's age in days using current date provided by an API

Personal Professional Website
- Built personal professional website using PHP and CSS that includes a navbar with local and external links, and hero, about, portfolio, skills, and contact sections
- Portfolio section presents my 3 Unity apps as WebGL builds that can be used immediately on website

Chess Simulator
- Developed chess simulator using Python where computer plays against itself and makes totally random moves for each side and each turn, and all chess rules are thoroughly adhered to
- Program runs about 1.1 games per second, can run any number of games, and includes option to view games or not
- After games are done running, stats about results are shown, including number of checkmates and stalemates dealt by each side and number of draws by threefold repetition, 50-move rule, and insufficient material

Worble Game App
- Developed Wordle-like game app using Unity (C#) where player chooses length of word to guess with options ranging from 2 to 15 letter words, and that introduces 'View answer', 'Restart with new word', and 'Go back to main menu' buttons
- Scrabble dictionary is loaded into a hash set for efficient lookup of submission attempts to check if they are valid words, and for grabbing a random solution for each game. Nearly all (of ~200) game objects are efficiently generated via script
- Invalid submission attempts are handled with a "Incomplete word", "Word cannot end with 'S'", or "Invalid word" message

Ping Game App
- Developed Pong-like game app using Unity (C#) where player chooses from 3 difficulty levels that each entail a different paddle size, ball size, and horizontal ball speed, and plays against computer using 'w' and 's' keys on their keyboard.
- Computer player is controlled by a script that makes it play at a skill level comparable to average video game player
- Bypassed need to use Unity's physics engine by implementing componential velocity and simple collision-handling for ball
- Introduced physical component of friction between paddles and ball that can affect post-collision vertical velocity of ball

WORK EXPERIENCE & LEADERSHIP

Code Galaxy **Remote**
Computer Science Instructor *Jun 2024 - Sep 2024*
- Taught fundamentals of computer science through private and group lessons in a virtual classroom to 12 students using Minecraft Education and Scratch projects

Design Thinking & Communication 2 (course) / Northwestern University **Evanston, IL**
Team Member *Mar 2024 - Jun 2024*
- Took lead on 3D CAD and printing, constructing, and testing prototypes within a 4-student team given the task of helping prevent a local farm's chicken water feeders from freezing in the winter

Brazilian Jiu-Jitsu Club / Northwestern University **Evanston, IL**
Member *Oct 2023 – Present*
- Active and determined member, took lead on organizing meetups

Andrews Academy **St. Louis, MO**
STEM Camp Counselor *Jun 2023 - Aug 2023*
- Collaborated with another counselor to design and conduct weekly engineering and/or math-themed projects for ~75 campers, along with general camp counselor duties