Khang Nguyen

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https://github.com/KhangN65719

Education

University of Illinois Chicago — Chicago, IL
Bachelor of Science in Computer Science — *Aug 2024 – May 2027*

Nashville State Community College — Nashville, TN
Aug. 2023 – May 2024

Experience

SparkHacks Participant — February 7 – February 8
University of Illinois Chicago — *Chicago, Illinois*

- Participated in SparkHacks, UIC's largest 24-hour hackathon with 200+ participants, collaborating in a team
- Used technical and problem-solving abilities to create and provide a workable solution in a time frame that was competitive.
- Participated in workshops to improve knowledge of technologies like React and Git.
- Networked with industry professionals from companies like John Deere, CME Group, and Grainger, gaining mentorship and insights.

Projects

Peg Solitaire Game | *C++* — January 2025 – February 2025

- Developed a straightforward, interactive text-based interface for a Triangle Peg Solitaire game in C++.
- Improved game logic and cut down on pointless calculations by putting in place an effective move validation system.
- Designed a dependable win condition check that guarantees the game recognizes the player's victory with 100% accuracy.
- Organized the game's data management to facilitate the implementation of upcoming upgrades like a graphical user interface or AI-assisted maneuvers.

Half-Gammon | *C++* — February 2025 - April 2025

- Created a Half-Gammon board game in C++ with a 16-space board that includes Backgammon features like movement, blocking, hitting, and bearing off. Implemented Mersenne Twister for randomization of dice rolls to make it fair and random.
- Designed a text-based user interface to display the board state and handle player interactions.
- Optimized game logic for handling complex scenarios like forced moves for bumped checkers and blocked positions.
- Applied structured programming principles to modularize game mechanics and ensure code maintainability.

Red Light Camera Data Analysis | *C++* — March 2025 - May 2025

- Analyzed over 12,000 red light camera records using C++ to extract and process intersection, violation, and neighborhood data.
- Created a command-line interface to allow users to view a summary of data, including the total number of violations (97,383) and the camera with the most violations in a day (50 violations on 2-25-2023).
- Implemented neighborhood-based aggregation, producing a detailed report showing Austin as the neighborhood with the most violations (43,518) from 14 cameras.
- Utilized vectors and file I/O to process raw camera data, enabling efficient extraction and aggregation of violation statistics by neighborhood.

Technical Skills

Languages:Python, C/C++ HTML/CSS,
Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, Clion