Jianchen Hong

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EDUCATION

University of Illinois Urbana-Champaign, Illinois, US **January 2022 – May 2025 (Expected)**
Degree: Bachelor of Science; Major: Statistics, Minoring Computer Science, GPA: 3.73

Northeastern University, Massachusetts, US **September 2020 – May 2021**
Major: Computer Science; Overall GPA: 3.57
Core Courses: *Intro to Computer Science, Calculus, Statistics and Probability, Discrete Structures, Data Structures, Game development, Statistical data management, Statistical modeling.*

RESEARCH PROJECTS

Clinical Data Analysis, Researcher, SANOFI (R) **September 2023**

Clean the patients' clinical data and visualized the demographics on Tableau.

Create SDTM domains; DM, DS and VS; create ADaM dataset ADSL.

Create a demographics table.

Simple Matrix-themed Game Implementation (Unreal Engine 5) **September 2023**

Created a first-person game that manipulates a character to move through a tunnel without hitting obstacles.

Generated obstacles in real time that the character needs to avoid and randomized obstacles to create variations.

Created randomized med kits that can help healing the character.

Created a restart button that displays when the player hits an obstacle.

Open flight Project, University of Illinois Urbana-Champaign, IL, US (C++) **November 2022**

Utilized flight routes and airports data to identify the most efficient (i.e. shortest) travel path between airports.

Developed a Dijkstra-based traversal algorithm to find the shortest path in O(n^2).

Applied the algorithm to simulate the flight from LAX to MIA in shortest path using the entire U.S. flight database.

Personal ID identification with DNA database, University of Illinois Urbana-Champaign, IL, US (Java) **May 2022**

Identified a specific person name using the provided DNA database and a string representation of the person's DNA sequence.

Worked with compound data structures and making informed decisions based on observed values.

Cleaned and validated the raw data using string parsing, and manipulated files using shell commands such as rm, mv.

Built a function that can identify the person in O(n^2).

Mountain Path Finding (C++) **November 2022**

Given a topographic map with elevation, determined the path with least elevation change from the left-most to right-most edge.

Translate elevation data into a grid grayscale image representation.

Used the greedy walk algorithm to find a path that had the least per-step elevation change.

Verified that greedy walk did not guarantee the global optimal solution.

Connect 4, University of Illinois Urbana-Champaign, IL, US (Java) **May 2022**

Developed the game 'Connect 4' along with four automated strategies designed to secure a win.

Wrote a script to test out if a player met the four winning conditions (vertical, horizontal, and the two diagonals \ and/).

ADDITIONAL INFORMATION

Languages: Mandarin (Native); English (Fully professorial)

Technical skills: JAVA, C++, logic, r studio, Unreal Engine 5