Pranav Konijeti

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Education

University of Colorado Boulder — Boulder, CO

Bachelor of Science in Computer Science, Minor in Mathematics — *August 2024 – Current*

- Expected Graduation: May 2027
- Planned continuation into Master of Science in Artificial Intelligence (BAM program), 2027–2028
- GPA: 4.0/4.0
- Completed Coursework: Data Structures, Algorithms, Computer Systems, Linear Algebra, Numerical Computation, Statistical Methods and Applications, Calculus III, Ordinary Differential Equations
- Current Relevant Coursework: Operating Systems, Artificial Intelligence, Software Development Methods and Tools, Probability Theory

Projects

Dungeon Crawler | *C++, VS Code, Git* — Spring 2025

- Implemented Dijkstra's algorithm to compute the easiest path through a weighted dungeon graph.
- Built a custom max-heap priority queue for efficient enemy item damage management.
- Integrated data structures (heap + hash table + graph) to calculate edge weights and optimize traversal.

Game of Life - Lion Edition | *C++, VS Code, Git* — Fall 2024

- Collaborated with a teammate on designing and implementing board and player systems with dynamic tile effects and player stat progression.
- Developed event-driven gameplay mechanics, including random events, advisor effects, and challenge tiles.
- Applied object-oriented programming principles, modular design, and arrays/vectors for scalable gameplay.

Statistical Analysis of First-Year College GPAs Using R | *R, Jupyter, LaTeX* — Spring 2025

- Created visualizations such as boxplots, scatterplots, and histograms to explore relationships between GPA and demographic/academic variables.
- Conducted hypothesis testing (Welch Two-Sample t-test) to assess demographic effects on GPA.
- Built and interpreted simple linear regression models to identify predictive factors like high school GPA, SAT math, and SAT verbal scores.
- Documented findings in a LaTeX report, including methods, results, and recommendations for further study.

Space Invaders Inspired Game | *Python, PyCharm* — Summer 2025

- Developed a 2D arcade-style game in Python using Pygame with player, enemy, and projectile mechanics.
- Implemented collision detection with Euclidean distance formula and managed bullet state using flags.
- Integrated scoring system, "Game Over" state, randomized enemy movement, and sound effects for user experience.

Leadership and Experience

Captain, Chess Club — Thornton, CO

Stargate Charter School — *2022 – 2024*

- Organized and led weekly meetings, mentoring 15+ members in chess strategy.
- Secured funding from school to obtain chess boards and chess clocks so all members could participate.

Volunteer, A Precious Child — Broomfield, CO

Summer Volunteer — *Summer 2023*

- Completed 40+ hours of service assisting families in a retail-style resource center.
- Collaborated with staff and volunteers to ensure efficient operations and positive client experiences.

Technical Skills

Languages: Python, C/C++, Julia, R
Developer Tools: UNIX/Linux, Git, VS Code, GDB, Valgrind, PyCharm, Jupyter, LaTeX, AI coding assistants (Claude, Copilot, ChatGPT)