John Le

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Profile

I am John Le, a University of Colorado Boulder graduate with a Bachelor of Science in Computer Science. Specializing in front-end development, I am proficient in **HTML**, **CSS**, and **JavaScript**. My academic and project experiences have strengthened my **technical**, **communication**, **leadership**, and **problem-solving skills**. I seek opportunities in front-end development or software engineering to drive technological innovation.

Education

University of Colorado Boulder | **B.S. Computer Science** | GPA: 3.5

Programming Languages & Essential Skills

Python | HTML | CSS | Javascript | C++ | Java
Strong Communication | Teamwork & Collaboration | Problem Solving | Attention to Detail

Experience

University of Colorado Boulder, Student Engineer/Developer **2020-2024**
Notable Projects include:

- **Nasa Mars Rover Path-Finding Team |** Sep 2023 – Apr 2024
  - Engineered a Mars Rover simulation with a team, creating a realistic model that navigates Martian terrain using an A* Search algorithm with Manhattan heuristics, achieving 30-50% faster performance and up to 50% lower memory usage compared to Euclidean heuristics, and 40-80% faster performance compared to other algorithms such as Dijkstra, BFS, and DFS.
  - Established weekly strategic meetings with all project stakeholders, successfully integrating adaptive navigation using Digital Elevation Models, resulting in a dynamic, interactive Martian map and improving pathfinding efficiency by 40-80% compared to traditional algorithms.
- **Mancala AI |** Aug 2023 – Dec 2023
  - Created and tested AI players using Minimax and Alpha-Beta pruning algorithms, implementing a robust utility function to evaluate game states and make optimal moves.
  - Achieved a significant quantitative improvement, by demonstrating a 75% reduction in computation time with Alpha-Beta pruning over Minimax, while maintaining a 98-100% win rate against random players, highlighting the efficiency and effectiveness of the developed AI algorithms.
- **Academy Boulder's Website Redesign |** Aug 2023 – Dec 2023
  - Contributed significantly to a website redesign project focused on enhancing accessibility, strategically implementing HTML and CSS modifications to optimize user experience for individuals with visual or hearing impairments.
  - Achieved substantial improvements in the website's accessibility compliance, facilitating a more navigable and interactive environment for all users, particularly those utilizing assistive technologies.
- **Predicting Student's Dropout and Academic Success |** Jun 2023 – Aug 2023
  - Developed and implemented classification models using logistic regression, random forests, support vector machines, and gradient boosting to predict student dropout and success rates based on academic path, demographics, and socio-economic status.
  - Achieved a 30% increase in overall prediction accuracy, a 40% boost in F1-score for minority classes, and a 50% reduction in model training time by implementing feature engineering, hyperparameter tuning, SMOTE for class imbalance, and cross-validation techniques, leading to more precise identification of at-risk students and enhanced early intervention strategies.
- **Object-Oriented 'Go Fish' Game |** Jan 2023 – May 2023
  - Developed an object-oriented 'Go Fish' game, incorporating sophisticated design patterns such as singleton, factory, and strategy to enhance functionality and user experience.
  - Achieved a 100% completion rate of planned features, excluding the web version, with a successful implementation of all design patterns and user account functionalities, resulting in a robust and fully functional game.