Joseph Marek

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Milestone Two Progress Report:

1. Collaborative Environments for Organizational Decision Making:

- While this milestone does not directly involve building collaborative environments, working with game experiences and neural network models does lay the foundation for interdisciplinary teamwork in computer science. In future milestones, I plan to collaborate with others to integrate the solutions I develop into broader systems, enhancing team decision-making processes for complex problems.

2. Professional-Quality Communication:

- In this milestone, I have effectively communicated my understanding of how game experience replay works within reinforcement learning, including clear explanations of code implementation for storing, predicting, and updating experiences. I have also documented my code with comments, ensuring that other developers can easily understand the logic and contribute to the project. As I move forward, I aim to refine these skills by tailoring communications to both technical and non-technical audiences.

3. Algorithmic Principles and Problem Solving:

- The work on the `GameExperience` class demonstrates my ability to apply algorithmic principles and problem-solving skills in computer science. In particular, I have implemented a strategy for handling experience replay in reinforcement learning, where the system learns by revisiting prior experiences and adjusting action predictions based on reward feedback. The decision to use discounted rewards and the selection of appropriate data structures (such as lists for memory and numpy arrays for storing inputs/targets) showcases my understanding of algorithmic trade-offs.

4. Software Engineering/Design and Database Management:

- I have demonstrated substantial progress in software engineering and design through the creation of the `GameExperience` class. This class adheres to good software design principles, such as encapsulation and separation of concerns, by isolating the logic for storing and updating experiences. The code also uses well-established techniques for predicting actions and updating targets based on Q-learning. Going forward, I will continue refining my design and implement more complex algorithms for better performance and scalability.

5. Security Mindset in Software Architecture:

- While this milestone does not specifically address security concerns, I recognize the importance of security when dealing with systems that handle large amounts of data (e.g., storing game experiences). In future projects, I will integrate security principles by ensuring data privacy and safeguarding against potential vulnerabilities in software, especially when building systems that interact with external networks.

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