**Portfolio Milestone Assignment: 2**

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Colorado State University Global

CSC510: Foundations of Artificial Intelligence

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05/04/2025

**Project Update**

Neural networks can be an important future enhancement for my Veteran Support Decision Assistant. While my current system is rule-based and relies on a decision tree structure to guide users through post-military support options, neural networks could improve the experience by identifying patterns in veteran input data that aren’t explicitly programmed. For example, a neural network could learn to recommend job or housing resources based on similarities in other users’ profiles, adapting over time to provide more accurate and personalized guidance. This kind of classification task—grouping veterans with similar needs or risk factors—is a strength of neural networks, especially when the data is complex or “fuzzy.” In the long term, I could incorporate a shallow feedforward neural network to classify veterans into support categories based on responses to questions about their skills, mental health, housing status, or income. This would allow the system to go beyond static rules and evolve through feedback and historical data. Neural networks, particularly when trained on sufficient and diverse user data, could offer a flexible and intelligent foundation for expanding the tool’s impact. According to Sharda et al. (2023), neural networks are particularly useful when patterns are not obvious or when relationships between input and output variables are nonlinear, making them a natural future fit for this project.

**References**

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