AI Acknowledgement

I would like to acknowledge the use of AI-assisted tools during the development of this assignment.

AI (specifically ChatGPT) was used to support certain implementation aspects of the project, particularly:

- Structuring and refining the visualization logic (mean ± SD, mean ± SE, and comparison plots).
- Assisting in adapting my existing neural network implementation to be compatible with JAX syntax and functional programming style.

The core scratch MLP implementation logic was originally developed based on material from the **Applied Machine Learning** course that I completed last semester. The conceptual understanding of forward propagation, backpropagation, loss computation, and parameter updates was independently implemented following that coursework foundation.

Since this was my first time implementing a model in JAX, I used AI assistance to help translate standard neural network logic into JAX-compatible functional code (e.g., handling jax.grad, jax.jit, and explicit parameter dictionaries). However, the mathematical structure and learning algorithm design were based on my prior understanding.

To learn JAX conceptually, I followed Aleksa Gordić's JAX tutorial playlist, specifically:

https://www.youtube.com/watch?v=SstuvS-tVc0

Additionally, I have included the original raw scratch MLP implementation file (referred to as the "Bag of Words implementation") to demonstrate the foundational version from which the JAX-compatible version was derived.

AI tools were used strictly as a coding and syntax aid, not for conceptual problem-solving or report writing of technical analysis sections.