Project Title: Simulation of the Rescorla-Wagner Model with Python
Project Author: Svita Kiran

Project Description:

The Rescorla-Wagner Model Simulation is a GUI which models the Rescorla-Wagner learning model equation, which explains and estimates people learn through classical conditioning. In this simulation, you can adjust the different factors like the learning rate (α) and the unconditioned stimulus(US) intensity (λ), to see how they affect associative strength across multiple learning trials. When you run the simulation, the application should generate a plot that visually represents the changes in associative strength over time that can be modified when the variables are modified. The model updates the association strength between a conditioned stimulus (CS) and an unconditioned stimulus (US) based on prediction errors.

The equation of the Rescorla-Wagner model is: $\Delta V = \alpha \cdot \beta \cdot (\lambda - V)$

ΔV is the change in associative strength, α is the learning rate, β is the intensity of the conditioned stimulus (CS), λ is the intensity of the unconditioned stimulus (US), and V is the current associative strength.