

# Recurrent Neural Networks I

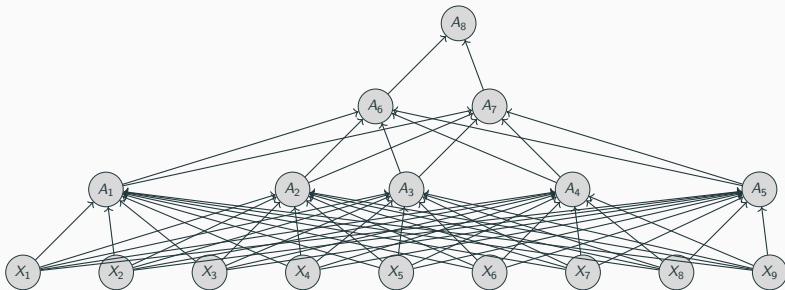
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Forrest Davis

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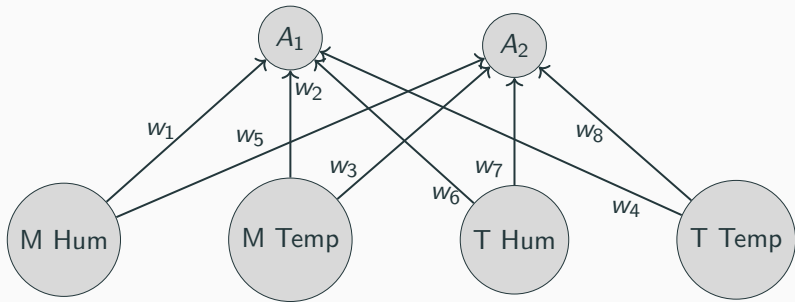
Fall 2025 COSC410A: Applied Machine Learning  
Colgate University

# Feed-forward weather prediction



**Figure 1:** Three-layer neural network for predicting sunshine from three features per day. For a period of time, like Monday, Tuesday, Wednesday,  $x_1, x_2, x_3$  would be features for Monday (e.g., humidity, max temperature, min temperature),  $x_4, x_5, x_6$  for Tuesday, and  $x_7, x_8, x_9$  for Wednesday.

## Candidate Architectures - Starting Point



**Figure 2:** Feed-forward neural network basic prototype