Week 6: Intelligent Agents

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TIM-8150: Artificial Intelligence

November 8, 2020

Northcentral University

# Intelligent Agents

The North American electrical network is the world’s most massive machine, spanning across the continent (Wildberger, 1996). Making predictions across this example system is exceptionally complex due to the variability and inter-relationship of black box decisions. Traditionally, physicists and statisticians approach these issues with very sophisticated equations that seek to model the problem domain. However, those methods are challenging to scale, expensive to operate, and updates require expertise. In contrast, businesses desire elegant solutions that promote agility through experimentation with low entry barriers and minimal economic overhead.

Intelligent agents address this dilemma by providing a simpler paradymn for simulating an environment. Instead of directly tackling macro problems, a decomposition of the world occurs to identify its various participants (called agents). Each agent performs a collection of tasks under a guiding set of rules and principles. While solving these tasks, agents can perform collaborative or competing actions and send notifications to one another. An aggregation of independent agent decisions then builds broader insights.