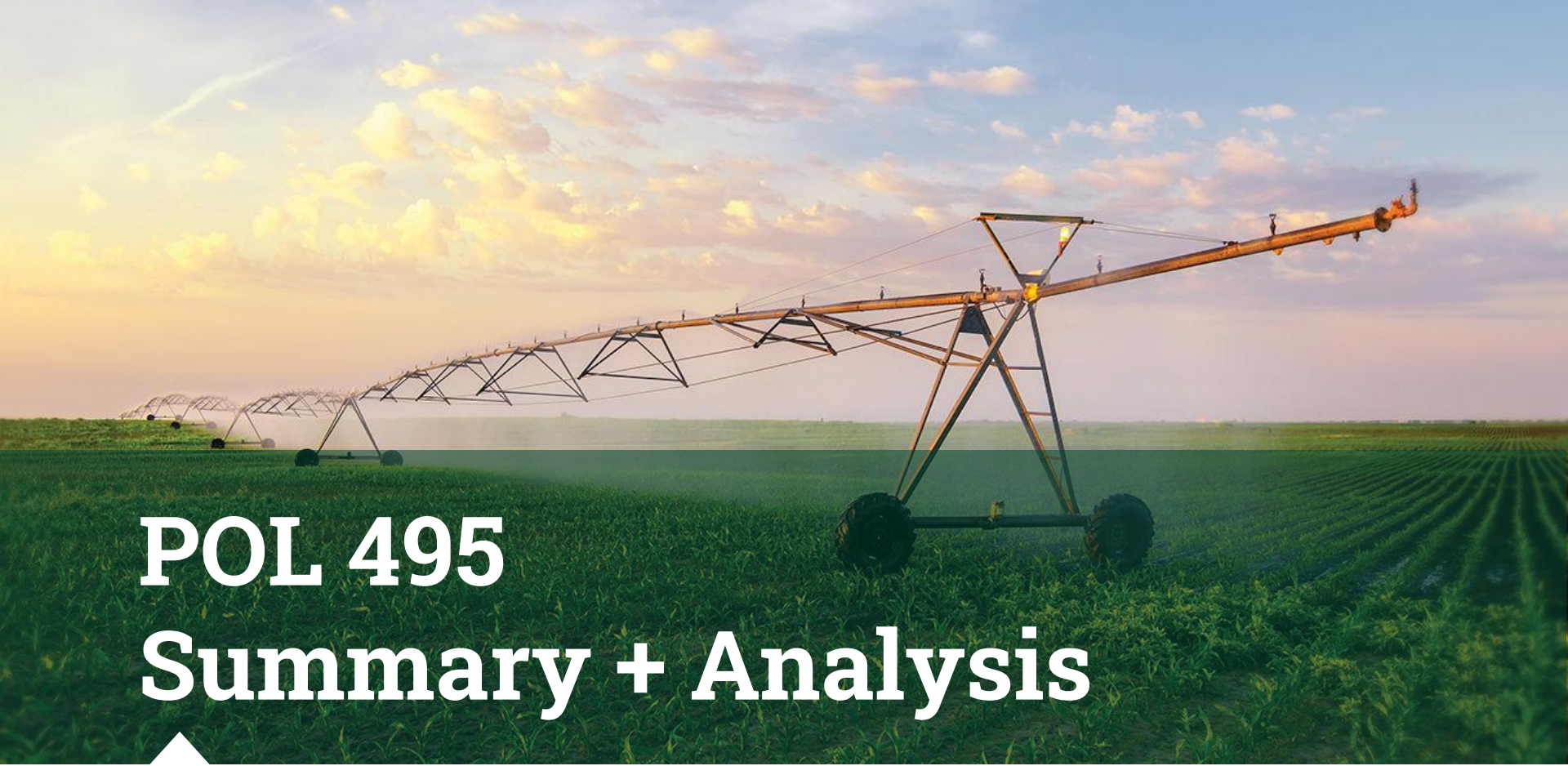


POL 495
Summary + Analysis

BY

Devanshi Pratiher

Discussion of POL 495 Assignment 2

Summary of readings and questions developed.

Analysis of Irrigation Experiment Manuscript

Experiment Design

Four treatments differing in one condition related to users' opinions:

- Baseline (pay/ use public irrigation)
- Exit option (baseline + private well)
- Voice option (baseline + costly petition)
- Combined option (baseline + exit + voice)

Design Goal

- Design and conduct behavioral experiment:
  - public agricultural water supply system involving users and providers.
- Measure and report relative effectiveness of exit, voice, combination treatments on infrastructure quality improvement
- Measure level of cooperation between users and providers achieved
  - Individual level
  - Social trap/ viscous cycle in society

Research about Automation and Experimental Economics

Key Concepts from Research Papers

Human-Computer Interaction

Behavioral economics is important to understand how computer automation works. Implementing AI algorithms help understand constraints and ways to fix limitations in experiments. Different types of categories: fixed, adaptive, mimic human subjects

Machine Learning

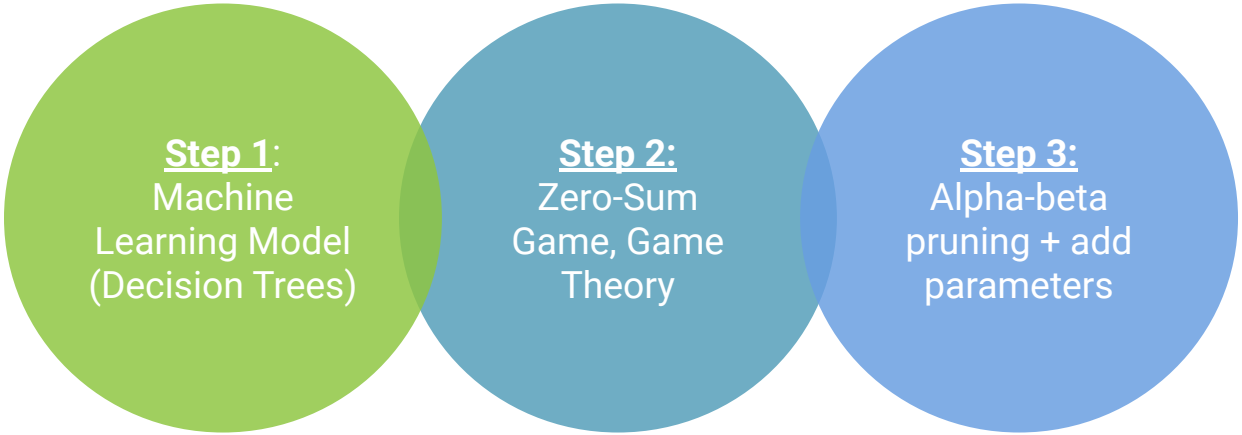
Understanding how different models help better the experiment. Decision trees, Natural Language Processing are a few that can help with experimental economics. Improving time limitations and consistency of experiment is key factor. Better model leads to better automation and better experiment.

Automation

Key elements in game theory and zero-sum game. Player versus Opponent strategy. CP versus human. Minimax algorithm and alpha-beta pruning are two main automation algorithms. Incorporating these into the automation would give it the game function and automate the experiment.


Plan for Automation
for Experiment

Main Idea on Automation

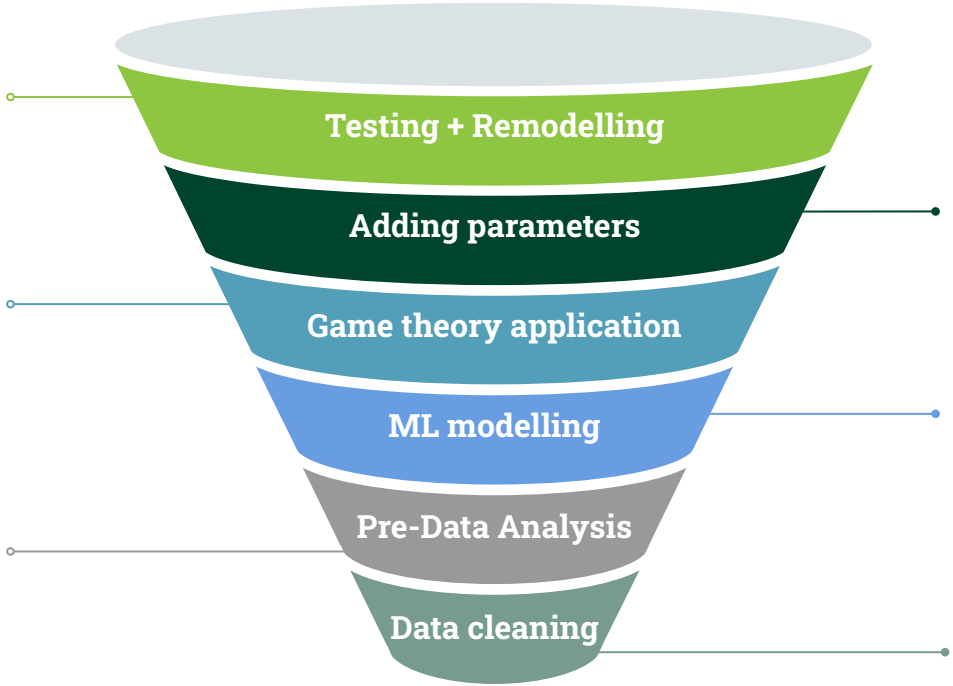


Plan for Experimental Automation

Bug fixing, and redoing the modelling after testing performance.

Implementation of game theory logic and minimax, alpha-beta pruning to help with zero-sum game user/ CP automation

This is a really important step in understanding the data and the patterns before proceeding. Will help find key insights, patterns and trends will help choose and understand model



Remodelling to test for different parameters and include variable distinctions

Going through the steps of performing ML using decision trees, test/train/validation, hyper-parameter tuning, model

This is the stage where we will take the important elements of the data and create a revised data set ideal for ML modelling


More details on Assignment Doc.
Thanks!