

# A Game Theory Simulation on the Battle of Gettysburg using Agent Based Modeling

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# Peering into the Past: A Historical Context

- American Civil War (1861-1865)
- Union vs. Confederate
- Strategic Importance: Why Gettysburg?
- Turning Point of the war



Figure: The Battle of Gettysburg by Thure de Thulstrup

# Unraveling the puzzle: Simulation Objectives

- Simulate the battle using Game Theory and Agent Based Modeling
- Strategic decision-making of agents using Game Theory
- Validating the simulation



Figure: Investopedia

# The Game is on

- Game theory and ABM
- Implementation
- Merge

# Model and Agents

- Matplotlib
- Agents
- Blue: Union
- Red: Confederation

# Simulation Process

- Simulation



## Results and Analysis

- Results



## Figure: Results

# Summary and Future works

- Summary
- Future Works



# References



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