LAB 1 – Document Popularity vs Viral

# Description

The goal of this simulation is to compare the success of consumer profiles and viral profiles. We are forced to make numerous assumptions, but we believe they are logical.

# Simulator

|  |  |
| --- | --- |
| Simulation Run Time | 1000 |
| Simulations Run | 100 |

# Breed Populations

|  |  |
| --- | --- |
| Initial Population Size | Population Name |
| 20 | Viral-profiles |
| 100 | Document-Popularity-profiles |
| 12 | Documents |

# Breed Profiles

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Population Name | Rank Strategy | Like Strategy | Payoff Strategy | Follow Strategy | Publish Strategy | Tag Values |
| Attack-profiles | N/A | N/A | Viral Payoff | N/A | N/A | 0 |
| Document-Popularity-profiles | Document Popularity TopK | Like files in TopK | Selfish Payoff | N/A | N/A | 1 |
| Documents | N/A | N/A | N/A | N/A | N/A | Ten are tagged with 1, two are tagged with 0. |

# Constants

|  |  |  |
| --- | --- | --- |
| Constant Name | Attack Peers Value | Random Peers Value |
| Reward | 1 | 1.5 |
| Punishment | N/A | 0.5 |
| Turn Cost | 0.2 | 0.2 |
| Publish Threshold | N/A | N/A |
| Publish Cost | N/A | N/A |
| TopK Size | N/A | 5 |

# Notes

Neither the viral profiles nor the document popularity profiles are very successful. However, it is clear that the document popularity profiles are initially outperforming the viral profiles.

LAB 2 – Document Popularity vs Counter Document Popularity Viral

# Description

The goal of this simulation is to compare the success of consumer profiles and viral profiles. We are forced to make numerous assumptions, but we believe they are logical.   
  
The Counter Document Popularity works by finding viral files and promoting them by liking them, this puts them in the public lime light.

# Simulator

|  |  |
| --- | --- |
| Simulation Run Time | 1000 |
| Simulations Run | 100 |

# Breed Populations

|  |  |
| --- | --- |
| Initial Population Size | Population Name |
| 20 | Viral-profiles |
| 100 | Document-Popularity-profiles |
| 12 | Documents |

# Breed Profiles

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Population Name | Rank Strategy | Like Strategy | Payoff Strategy | Follow Strategy | Publish Strategy | Tag Values |
| Attack-profiles | Random Topk | Like files in TopK | Viral Payoff | N/A | N/A | 0 |
| Document-Popularity-profiles | Document Popularity TopK | Like files in TopK | Selfish Payoff | N/A | N/A | 1 |
| Documents | N/A | N/A | N/A | N/A | N/A | Ten are tagged with 1, two are tagged with 0. |

# Constants

|  |  |  |
| --- | --- | --- |
| Constant Name | Attack Peers Value | Random Peers Value |
| Reward | 1 | 1.5 |
| Punishment | N/A | 0.5 |
| Turn Cost | 0.2 | 0.2 |
| Publish Threshold | N/A | N/A |
| Publish Cost | N/A | N/A |
| TopK Size | N/A | 5 |

LAB 3 – Enhanced Document Popularity vs Counter Document Popularity Viral

# Description

The goal of this simulation is to compare the success of consumer profiles and viral profiles. We are forced to make numerous assumptions, but we believe they are logical.

This simulation attempts to enhance the Document popularity to make it more competitive. The hope is that this enhancement will allow document popularity to outperform the viral peers. It works by not including files that were ranked in the past, and by publishing a new document every turn.

# Simulator

|  |  |
| --- | --- |
| Simulation Run Time | 1000 |
| Simulations Run | 100 |

# Breed Populations

|  |  |
| --- | --- |
| Initial Population Size | Population Name |
| 20 | Viral-profiles |
| 100 | Document-Popularity-profiles |
| 12 | Documents |

# Breed Profiles

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Population Name | Rank Strategy | Like Strategy | Payoff Strategy | Follow Strategy | Publish Strategy | Tag Values |
| Attack-profiles | Random Topk | Like files in TopK | Viral Payoff | N/A | N/A | 0 |
| Document-Popularity-profiles | Document Popularity TopK with Memory | Like files in TopK | Selfish Payoff | N/A | Publish every turn | 1 |
| Documents | N/A | N/A | N/A | N/A | N/A | Ten are tagged with 1, two are tagged with 0. |

# Constants

|  |  |  |
| --- | --- | --- |
| Constant Name | Attack Peers Value | Random Peers Value |
| Reward | 1 | 1.5 |
| Punishment | N/A | 0.5 |
| Turn Cost | 0.2 | 0.2 |
| Publish Threshold | N/A | N/A |
| Publish Cost | N/A | 2 |
| TopK Size | N/A | 5 |