



P2P Distributed Artificial Intelligence

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Framework

- P2P network of software agents
- Agents are customers, workers and/or forwarders
- Customers submit a job to the network, forwarders look for a suitable worker, workers perform the task
- Experimenting different strategies
- Trying to optimize the activities of the agents
- Using simple economic models

Possible Economic Models (1)

- Secrecy: agents keep some part of their internal state secret
- Money: forwarding and task completion means money income, agents try to increase their wealth
- Added value: wealth coming from outside of the system
- Discounts: forwarders of large amounts get lower prices
- Time limitation: processing prevents the node to do anything else

Possible Economic Models (2)

- Bankruptcy: agents that cannot pay for new tasks disappear
- Taxation: income is taxed (linearly or not) and evenly redistributed
- Social policy: bankrupt agents can get social funding
- Agent specialisation/diversification: agents become able to perform more or less kinds of tasks

Possible Goals

- Increase the wealth of individual agents
- Increase the wealth of the whole system
- Favorise specialisation or genericity