

Outline

- I. Distributed AI Overview
 - A. What is DAI?
 - B. What problems does DAI solve?
 - C. DAI structure/process
 - 1. DAI High-level architecture
- II. DAI Techniques and applications
 - A. RESTful web services
 - B. DAI APIs
 - 1. DAI API High-level architecture
 - C. Distributed Deep Learning
 - 1. Distributed Deep Learning Overview
 - 2. Distributed Deep Learning Applications
 - D. DAI advantage overview
- III. Swarm Intelligence
 - A. What is Swarm Intelligence?
 - 1. Stigmergy
 - B. Swarm Intelligence optimization
 - 1. Particle Swarm Optimization
 - 2. Ant Colony System
 - 3. Artificial Bees Colony Algorithms
- IV. Multi-Agent System
 - A. What are Multi-Agent Systems?
 - B. Multi-Agent Reinforcement Learning (MARL)
 - 1. Applications of MARL
- V. Agent-Based Modeling
 - A. What is Agent-Based Modeling?
 - B. How is ABM used?
- VI. Federated Learning
 - A. What is Federated Learning
 - B. Federated learning flowchart
 - C. What are some applications of Federated Learning?
- VII. DAI Advantages
 - A. Fast analyzation of huge data sets
 - B. Scalability increases
 - C. Large Models
 - 1. Enhanced model accuracy
 - D. Resource Utilization
 - 1. Cost savings
 - E. Flexibility
 - 1. Increased fault tolerance
- VIII. What are some challenges raised by DAI?
 - A. Velocity- With the AI race being on, there is a need for protection,

there needs to be an establishment of rules and enforcement of legal guardrails

- B. Not knowing what to Regulate- there is no one size fits all, since regulation will over-regulate in some instances and under-regulate in another.
- C. Digital abuse will increase- AI amplifies abuse like violation of personal privacy, misinformation, manipulation.

References

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