Title:

Nature Inspired Swarm Intelligence for Computing with Distribution in Space and Time

Abstract:

Linda was proposed in the early 80s as a programming language based on generative communication that is distributed in space and time. Linda differs from interprocess communication models since messages must be added as tuples to the computation environment as named independent entities. The setup allows for distributed sharing, continuation passing, and structured naming. However, Linda is restricted to a certain amount of servers and is unable to cope with the adaptiveness and scalability of an open environment. As a solution, Daniel Graff proposed SwarmLinda based on biological swarms of ants, birds, bees, etc. He called this phenomena swarm intelligence and concluded that enormous scale can be achieved by clustering similar objects in spacial regions containing several associative memories.

What will they learn?

A review of Swarm Intelligence will be made using the links below. SwarmLinda will be presented with possible application to the IPFS stack.

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