CS 474 Capstone Proseminar - 04A

Annotated Bibliography Exercise

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References

[1] K. C. Tan, M. L. Wang, and W. Peng, "A p2p genetic algorithm environment for the internet," *Commun. ACM*, vol. 48, no. 4, p. 113–116, apr 2005. [Online]. Available: https://doi.org/10.1145/1053291.1053297

In this article, K.C. Tan et al. propose a Peer-to-peer(P2P) computing environment built for the application of executing Genetic Algorithms(GA). The authors go into detail about the architecture of their P2P GA environment. In essence, a P2P architecture is a type of distributed system where multiple computers (peers) are leveraged for computational power and are interconnected through message-passing networks. Emphasis is placed on the importance of the geographic closeness of the peers in a P2P system to reduce communication latency between peers. In this environment schema, demes or subpopulations of the GA problem evolved independently from one another on different peers in parallel, providing the basis for GA execution speed up. The efficiency of this P2P GA environment is tested using a 4-bit deceptive optimization problem. This work vouches that a P2P system for GA execution has the benefits of faster execution time and more correct solutions.