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Impact

Honey bee research sets global market abuzz

Nature-inspired algorithms help multiple computer servers work together on specific tasks such as image analysis, data mining and document retrieval

Honey bee synchronicity inspired new algorithms to help computer servers work together.
Credit and Larger Version (/impacts/impact_images.jsp?cntn_id=243595&org=NSF)

October 31, 2017

NSF-supported researchers mimicked the food foraging behavior of honey bees to vastly improve how computer programs and devices work together in a rapidly growing global market worth over $50 billion. Just as honey bees perform various tasks in a highly synchronized and adaptable manner to benefit the colony, the researchers designed a novel set of step-by-step instructions to assign tasks to multiple computer servers. Major web hosting companies use the algorithm to analyze images, recognize objects and text, retrieve documents, and more. The algorithm also affects statistics, machine learning, data mining and other areas of computer science and engineering.

NSF Directorate(s):
Directorate for Engineering
Directorate for Biological Sciences

Locations
Georgia
New York

Related Awards

[#8451032 Presidential Young Investigator: Computational Complexity and Rescheduling Algorithms (/awardsearch/showAward.do?AwardNumber=8451032)](/awardsearch/showAward.do?AwardNumber=8451032)

[#8916006 Social Organization of Foraging by Honey Bees (/awardsearch/showAward.do?AwardNumber=8916006)](/awardsearch/showAward.do?AwardNumber=8916006)

Related Websites

The Honey Bee Algorithm: [https://www.goldengooseaward.org/awardees/honey-bee-algorithm (/cgi-bin/good-bye?https://www.goldengooseaward.org/awardees/honey-bee-algorithm)](/cgi-bin/good-bye?https://www.goldengooseaward.org/awardees/honey-bee-algorithm)

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