Jiayu Zhou to use NSF CAREER Award to enable computers to perform lifelong learning in big data

Jiayu Zhou of the Michigan State University College of Engineering is the newest Spartan Engineer to be awarded a National Science Foundation Faculty Early Career Development (CAREER) Award. The assistant professor of computer science and engineering will use a five-year, $551,600 award to research large-scale machine learning on big data.

Zhou said the NSF award will accelerate his project, "Harness the Big Data via Large-Scale Lifelong Learning," and will advance data analytics for fields including traffic studies and health informatics.

"Humans are more effective learners than computers," he explained. "Humans learn new concepts by connecting to acquired concepts. The learning process is no longer isolated from experiences as has been commonly used in machine learning approaches. Instead, the human learning process is accompanied by rich knowledge from other learning processes. This intuition motivated the paradigm of lifelong learning.

"We will enable large-scale lifelong learning, so that computers can constantly learn new concepts from big data, accumulating knowledge and transferring knowledge among learning tasks along the way," he added.

Zhou becomes the 14th member of the College of Engineering to receive an NSF CAREER Award since 2010. NSF CAREER Awards support junior faculty who exemplify the role of teacher-scholars through outstanding research and education. It is among NSF’s most prestigious honors.
He joined Michigan State in August 2015. He directs the Intelligent Data Analytics Lab (ILLIDAN) at Michigan State University. His research interests include large-scale machine learning, data mining, and biomedical informatics.

He is the leading author of the open-source multi-task learning software MALSAR (multi-task learning via structural regularization). He also serves on technical program committees for major data mining and machine learning conferences and regularly reviews manuscripts for numerous journals in his field.

His papers received the Best Student Paper Award at the 2014 IEEE International Conference on Data Mining, the Best Student Paper Award at the 2016 International Symposium on Biomedical Imaging, and the Best Paper Award at the 2016 IEEE International Conference on Big Data.

Before joining MSU, he was a staff research scientist at Samsung Research America.

He received a PhD in computer science at Arizona State University in 2014.

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