The University of Chicago Computer Science Department

PRESENTS:

"Make Your Database Dream of Electric Sheep: Designing for Autonomous Operation"

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Abstract:
In the last 20 years, researchers and vendors have built advisory tools to assist DBAs in tuning and physical design. Most of this previous work is incomplete because they require humans to make the final decisions about any database changes and are reactionary measures that fix problems after they occur. What is needed for a "self-driving" DBMS are components that are designed for autonomous operation. This will enable new optimizations that are not possible today because the complexity of managing these systems has surpassed the abilities of humans.

In this talk, I present the core design principles of an autonomous DBMS. These are necessary to support ample data collection, fast state changes, and accurate reward observations. I will discuss techniques on how to build a new autonomous DBMS or the steps needed to retrofit an existing one to enable automated management. Our work is based on our experiences at CMU from developing an automatic tuning service (OtterTune) and our self-driving DBMS (Peloton).

Bio:
Andy Pavlo is an Assistant Professor of Databaseology in the Computer Science Department at Carnegie Mellon University. He also used to raise clams.

Monday, December 17, 2018
1:30 pm
JCL 390 (New Location)
Host: Aaron Elmore
People in need of assistance should call 773-702-3508 in advance.
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