Distinguished Lecture Series

Challenges in Mining Cyber-Physical Systems

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Abstract

Cyber-Physical Systems are integrations of computation, networking, and physical processes. Both static and dynamic data, in various types and formats, are generated and collected from the interconnection of cyber elements and physical elements. Data mining and visualization techniques will play increasingly important roles in such systems to discover useful and even hidden knowledge. This talk will use urban vehicle location data and cellular phone record data to illustrate the importance and challenges in mining such systems. Such dynamic data are further integrated with the geographical map data to show more useful applications. A vehicle-assisted 3D laser scanning system is introduced to make 3D city modeling. Application and data storage requirements and challenges will also be addressed.

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