VirginiaTech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Computer Science Seminar Series, 2010
National Capital Region

Trajectory Models for Continuously Changing Data Objects

Speaker: Prof. Byunggu Yu
Department of Computer Science & IT
University of the District of Columbia

Friday, October 1, 2010
1:00PM-2:00PM, NVC 325

Abstract

To support emerging database applications that deal with continuously changing (or moving) data objects (CCDO), such as vehicles, analytical aggregate data, and sensor stimuli values, one requires an efficient data management system that can store, update, and retrieve large sets of CCDOs. Although actual CCDOs can continuously change over time, computer systems cannot deal with continuously occurring infinitesimal changes. Thus, in the data management system, each object's state values are associated with a certain degree of uncertainty at virtually every point in time, and queries are mostly processed over estimates characterizing the uncertainty. The smaller the uncertainty is, the better the query performance becomes.

Dr. Yu will present his investigation on capturing, representing, processing, and minimizing the uncertainties of CCDOs. There are many different types of CCDOs; this presentation focuses on physical objects that can continuously move in geographic space. Examples include vehicles and mobile devices.

Biography

Dr. Byunggu Yu is the Chairman of Computer Science and Information Technology at the University of the District of Columbia, Washington, D.C. He is also the Director of NSF sponsored Informatics Lab and NSF-sponsored ARCTIC (Assurance Research Center for Trusted Information Computing). He is the main Point of Contact of the University to Alion Science's SNIM (Software, Network, Information, and Modeling) IDIQ contract vehicle awarded by DOD/DTIC/Air force.