



Cal-(IT)² UC Irvine division presents the **2004 RESCUE SEMINAR SERIES**

"Onboard Vehicle Sensor Data Stream Mining and Random Perturbation-based Techniques"

DATE: Tuesday, June 22nd, 2004

LOCATION: 432 Computer Science Building at UCI

RELATED LINKS:

<http://www.cs.umbc.edu/~hillol>

<http://www.agnik.com>

MORE INFO:

Refreshments served at 2:00 p.m. with talk to follow.

For additional information on this series contact RESCUE project administrative manager, Lynn Harris, (949) 824-1147 or leharris@uci.edu



SPEAKER: Hillol Kargupta Associate Professor,
Computer Science and Electrical Engineering
Dept. University of Maryland Baltimore County;
President, Agnik, LLC

ABSTRACT:

This talk will present an overview of a mobile and distributed data stream management and mining system that allows real time vehicle-health monitoring, driver characterization, and fleet monitoring. It will offer the motivation behind this application, explain the system architecture, discuss some of the challenges, and share some of the adopted solutions. It will particularly focus on a collection of algorithmic solutions that make use of random perturbations of data for efficient computation of data mining primitives in a resource-constrained environment with limited computing power and restricted wireless bandwidth for communication. It will discuss the algorithmic solutions, offer experimental results documenting their performance, and point toward some intriguing properties of random perturbations in the context of computing functions.

BIO:

Hillol Kargupta is an Associate Professor at the Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County. He received his Ph.D. in Computer Science from University of Illinois at Urbana-Champaign in 1996. He is also a co-founder of AGNIK LLC, a ubiquitous data intelligence company. His research interests include mobile and distributed data mining and computation in gene expression.

Dr. Kargupta won a National Science Foundation CAREER award in 2001 for his research on ubiquitous and distributed data mining. He along with his co-authors received the best paper award in the 2003 IEEE International Conference on Data Mining for a paper on privacy preserving data mining. He won the 2000 TRW Foundation Award and the 1997 Los Alamos Award for Outstanding Technical Achievement. His dissertation earned him the 1996 Society for Industrial and Applied Mathematics (SIAM) annual best student paper prize.

He has published more than eighty peer-reviewed articles in journals, conferences, and books. He is an associate editor of the IEEE Transactions on Systems, Man, Cybernetics, Part B. He served as the Associate General Chair of the 2003 ACM SIGKDD Conference. He is also the Program Co-Chair of the 2005 SIAM Data Mining Conference. He has co-edited two books: (1) "Advances in Distributed and Parallel Knowledge Discovery", AAAI/MIT Press, and (2) "Data Mining: Next Generation Challenges and Future Directions" by AAAI/MIT Press. He is in the program committee of almost every major data mining conference (e.g. ACM, IEEE, SIAM). He has been a member of the organizing committee of the SIAM data mining conference every year from 2001 until 2005. He hosted many workshops and journal special issues on distributed data-mining and other related topics. He regularly serves as an invited speaker in many international conferences.