

STATISTICS/COMPUTER NETWORKING AND APPLICATIONS

New test bed checks ad-hoc performance

Working with students, Associate Professor Tirthankar Ghosh of Computer Networking and Applications (CNA) has built an ad-hoc network research test bed in a networking laboratory in Headley Hall. So far, Ghosh and his students have tested the performance of the campus wireless network in real time. They have also configured an opportunistic ad-hoc network that can connect to the campus LAN using a gateway.

Second book goes to press; first book praised

Professor Leonard Onyiah's second book, *Design and Analysis of Experiments: Classical and Regression Approaches with SAS*, will be published by CRC Press in May 2008. His first book, *SAS Programming and Data Analysis – a Theory and Program-Driven Approach*, has received an excellent review in *The American Statistician*, Vol. 61, No. 3. (August 2007).

2007 Student Research Colloquium participation

Eleven students, 2 presentations, 2 sponsors.

Statistician cosponsors SCSU Survey presentation

With Political Science Professors Stephen Frank and Steven Wagner, Professor David Robinson co-sponsored the SCSU Survey's presentation at the 2007 Student Research Colloquium.

The group of 10 student directors presented findings from previous student and statewide surveys on a number of topics, including problems facing Minnesota, the war in Iraq, women in politics, the University of North Dakota's Fighting Sioux mascot and SCSU student gambling behavior.

Since 1980, the SCSU Survey has been conducting local, regional and statewide scientific random sample telephone surveys. Since the addition of a computer-assisted telephone interviewing system in 1997, approximately 10 projects a year are conducted for clients. In addition, the group conducts two annual surveys of SCSU students.

Coaching, managing examined for impact

Professor Leonard Onyiah sponsored Yannick Abba's statistical study of the effects of various aspects of coaching on performances of some players in the National Basketball Association during the 2005 – 2006 season. Abba presented the project at the SCSU Student Research Colloquium.

Titled "Modeling Changes in Basketball Performance by Repeated Measures Design," the project used data from the scoring records of five players from twelve teams. Certain variables were modeled and studied and measurements made over the first 50 games of the season to determine the impact coaches and managers could have on players' performances.

Association honors computer networking prof

Professor Amos Olagunju, CNA, was honored with the designation of ACM Senior Member by the Association for Computing Machinery in May 2007. In addition, he has been an active reviewer for the journal, *ACM Computing Reviews*. The following are samples of his recent review submissions:

- Dispersion compensation in IP-over-DWDM networks employing combined modulation formats.
- X-GTRBAC admin: a decentralized administration model for enterprise-wide access control.
- High accurate pattern based precondition method for extremely large power/ground grid analysis.
- Performance analysis of transport layer security of web servers.
- A secured hierarchical trust management framework for public computing utilities.
- Next-generation digital forensics.
- The impact of transient traffic on mobile ad-hoc routing.

Statistician joins SCSU Survey

David Robinson has been appointed co-director of the SCSU Survey, which samples public opinion in matters of interest within Minnesota and conducts a SCSU student survey twice yearly. In addition, Robinson is using his sabbatical to study survey theory and practice.

New Faculty

Hui Xui has recently joined the department as assistant professor of statistics. His Ph.D. from Purdue University in 2007 follows an M.S. from the University of Georgia in 2002. His research interest is Bayesian statistics.

Two master's programs in process

Statistics is prepared to offer a master's in applied statistics. Computer Networking and Applications, in collaboration with the Business Computer Information Systems (BCIS) department, is developing a master's in information assurance.

Tirthankar Ghosh, Assistant Professor. Ph.D. 2005, Florida International University.

Ad-Hoc networks, Border Gateway Protocol security, trust modeling, secure routing, wireless network security

Selected Presentations

Ghosh, T. A Framework for Computing Trust in Mobile Ad Hoc Networks. WSPWN, March 15 – 16, 2006, Miami.

Publications

Ghosh, T. A Framework for Computing Trust in Mobile Ad Hoc Networks. Mobile and Wireless Network Security and Privacy. Makki, K., et al (Eds.). Springer, ISBN: 978-0-387-71057-0. July 2007.

Ghosh, T. and P. Reiher et al. Security and Privacy for Mobile and Wireless Networks. Mobile and Wireless Network Security and Privacy, by Makki, K., et al (Eds.). Springer, ISBN: 978037-71057, July 2007.

Ghosh, T. Towards Designing a Trusted Routing Solution in Mobile Ad Hoc Networks. ACM Mobile Networks and Applications (Monet), 10 (6) 985 – 995.

Ezzat Kirmani, Assistant Professor. Ph.D. 2005, Illinois Institute of Technology.

analysis of interval availability

Selected Presentations

Kirmani, E. A New Approach to Analysis of Interval Availability. IEEE International Conference on Availability, Reliability, and Security, March 4 – 7, 2008, Barcelona.

Richard Mowe, Professor. Ph.D. 1989, University of Oregon.

computer networking, computer science education, programming

Amos Olagunju, Professor. Ed. D. 1987, University of North Carolina.

computer science education, data mining algorithm, modeling and simulation, network security, nonparametric statistics

Leonard Onyiah, Professor. Ph.D. 1989, University of Strathclyde, Glasgow, Scotland.

applied statistics, experimental design, general application of statistics in biology, medicine, pharmacy, and agriculture, simulation and modeling

Publications

Ette, E. I. and L. C. Onyiah. Communicating Pharmacometric Analysis Outcome. In Pharmacometrics: The Science of Quantitative Pharmacology. Ette, E.I. and Williams, P. J. (Eds.). J. Wiley, N.Y. 2006.

Akinsete, A. and L. C. Onyiah. Dummy Variable Techniques in Forecasting Modeling. Advanced Studies in Contemporary Mathematics, 13 (1) 87 – 94.

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David H. Robinson, *Professor*. Ph.D. 1979, University of Iowa.

bootstrap, density estimation, queuing theory, simulation, survey research (co-director of SCSU Survey)

Grants

\$7,739 for Integrating Writing into Lower Division Statistics Courses. From Minnesota State Colleges and Universities System IPESL. 2006 – 2007.

Sister Del Marie Rysavy, SSND, *Associate Professor*. Ph.D. 1991, University of Minnesota.

cooperative learning, databases, education, learning, teaching, technology

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