

Mehmet Ercan Nergiz

Faculty of Engineering and Natural Sciences
Sabanci University
Orhanli, 34956, Tuzla
Istanbul, TURKEY
ercann@sabanciuniv.edu
+90 (216) 483 90 00 - 2114
<http://people.sabanciuniv.edu/ercann>

Sabanci University
Lojman Blok:F, No:1
Orhanli, 34956, Tuzla
Istanbul, TURKEY
+90 (506) 773 38 13

RESEARCH INTERESTS

Anonymization-based Privacy Protection;
Security and Privacy issues in Database and Data Mining Systems;
Applied Cryptography and Secure Multi-Party Computation techniques.

EDUCATION

Purdue University

Ph.D., Computer Science, Dec 2008.

- Dissertation Topic:
Anonymization-based Privacy Protection
- Advisor:
Associate Professor Chris Clifton

M.S., Computer Science, May 2005.

West Lafayette, Indiana

Bilkent University

B.S., Department of Computer Engineering and Science, May 2003.

Ankara, Turkey

PROFESSIONAL EXPERIENCE

Sabanci University

Visiting Faculty. Research interest are anonymization-based privacy protection and its application to real systems. I am currently working on the designing efficient privacy protection mechanisms for spatio-temporal and relational databases.

Aug 2009 - Present

Visiting Researcher in GeoPKDD project (funded by EU FP6). Research was on developing privacy-preserving techniques and systems for geographic knowledge discovery and delivery. I was working on the application of anonymity privacy definitions to trajectory databases and statistical evaluation of privacy metrics.

May 2007 - Aug 2007
Mar 2008 - Aug 2009

Purdue University

Research Assistant in the Department of Computer Sciences. Research is on evaluating and enhancing anonymization based privacy protection systems. We point out some questions raised by current anonymization techniques such as

Dec 2004 - Dec 2008

- a. support for additional adversary models and the difficulty of measuring privacy provided;
- b. flexibility of algorithms-generalizations w.r.t. a utility cost metric;
- c. working with complex data.

As part of the dissertation, we

- a. proposed a human understandable privacy notion, δ -presence;
- b. provided flexibility by introducing a new family of algorithms, *clustering based anonymity algorithms* and two new types of generalizations, *natural domain generalizations*, *generalizations with probability distributions*;
- c. extended the definitions of current anonymization techniques for multirelational and spatio-temporal setting by presenting *multirelational k-anonymity*, and *trajectory anonymity*.

Research was under the supervision of Professor Chris Clifton

Research Assistant in the Department of Computer Sciences. (affiliated with CRANE; Purdue Knowledge Projection Project for United States Navy) I worked on the client site of the system that queries the Oracle XML database. Project used javascript, jsp, xsl technologies for user interaction and xml format for communication and storage. I worked under the supervision of Ann Chris Catlin

June 2004 - Dec 2004

Teaching Assistant for Information Systems (CS348) and Data Structures (CS251) courses

Aug 2003 - May 2004

Bilkent University

Team member of BilVideo; a Video Database Management System built by Bilkent Faculty. I worked on the implementation of query processor. I also did work on the query optimization. I was under the supervision Ediz Saykol.

Aug 2003 - May 2003

Team member of Bilkent Student Clubs Database Project for Bilkent University Student Consulate. The project was a web based PHP-MySQL database project that handles student club records and was used by Bilkent University Student Consulate. I worked as a database designer and client side programmer.

Jan 2002 - Apr 2002

JOURNAL ARTICLES

- **M. Ercan Nergiz** and Chris Clifton, “ δ -Presence Without Complete World Knowledge”, *IEEE Transactions on Knowledge and Data Engineering (TKDE)* to appear.
- **M. Ercan Nergiz**, Maurizio Atzori, and Yucel Saygin, “Towards Trajectory Anonymization: a Generalization Based Approach”, *Transactions on Data Privacy (TDP)* to appear.
- **M. Ercan Nergiz**, Chris Clifton and Ahmet Erhan Nergiz, “MultiRelational k -Anonymity”, *IEEE Transactions on Knowledge and Data Engineering (TKDE)* December, 2008.
- **M. Ercan Nergiz** and Chris Clifton, “Thoughts on k -Anonymization”, *Journal of Data and Knowledge Engineering*, an Elsevier journal, December, 2007.

REFEREED CONFERENCES AND WORKSHOPS

- **M. Ercan Nergiz** , Maurizio Atzori, and Yucel Saygin, “Towards Trajectory Anonymization: a Generalization Based Approach”, *SIGSPATIAL ACM GIS 2008 International Workshop on Security and Privacy in GIS and LBS (ACM SPRINGL 2008)*
- Chris Clifton, Wei Jiang, Mummoorthy Murugesan and **M. Ercan Nergiz**, “Is Privacy Still an Issue for Data Mining?”, *National Science Foundation Symposium on Next Generation of Data Mining and Cyber-Enabled Discovery for Innovation (NGDM’07)*, Baltimore, Oct. 10-12, 2007.
- **M. Ercan Nergiz** , Maurizio Atzori, and Chris Clifton, “Hiding the Presence of Individuals from Shared Databases”, *26th ACM SIGMOD International Conference on Principles of Database Systems, (SIGMOD’07)*, Beijing, China April 11, 2007.
- **M. Ercan Nergiz** , Chris Clifton and A. Erhan Nergiz, “MultiRelational k -Anonymity”, *The 23rd IEEE International Conference on Data Engineering (ICDE’07)*, Istanbul, Turkey April 16, 2007.
- **M. Ercan Nergiz** and Chris Clifton, “Thoughts on k -Anonymization”, *The Second International Workshop on Privacy Data Management (PDM’06)* held in conjunction with *The 22nd IEEE International Conference on Data Engineering (ICDE’06)*, Atlanta, USA April 8, 2006.

BOOK CHAPTERS

- Chris Clifton, Wei Jiang, Mummoorthy Murugesan and **M. Ercan Nergiz**, “Is Privacy Still an Issue for Data Mining?” in *Next Generation of Data Mining*, Hillol Kargupta, Jiawei Han, Philip Yu, Rajeev Motwani, Vipin Kumar (Eds.), CRC Press, 2008.

UNDER REVIEW TECHNICAL PAPERS

- A. Erhan Nergiz, **M. Ercan Nergiz**, Thomas Pedersen, and Chris Clifton, “Practical and Secure Integer Comparison and Interval Check”
- **M. Ercan Nergiz**, Yucel Saygin, and Acar Tamersoy, “Instant Anonymization”
- **M. Ercan Nergiz**, Ercument Abdullah Cicek, and Yucel Saygin, “A Look Ahead Approach to Secure Multi-party Protocols”
- **M. Ercan Nergiz**, Ferit Akova, and Suleyman Cetintas, “Generalizations with Probability Distributions for Data Anonymization”

HONORS, AWARDS, ACHIEVEMENTS

- Upsilon Phi Epsilon (Computer Science Honor Society) membership [May 2004 - present]
- Purdue University Graduate Assistantship [Aug 2003 - present]
- Database Design for Bilkent University Student Consulate Money Award [Apr 2002]
- Bilkent University High Honor Student from [Sep 1999 - May 2003]
- Full scholarship awarded by the Bilkent University [Sep 1999 - May 2003]
- Scholarship for education in foreign countries awarded by Republic of Turkey Ministry of National Education [1999]

PROFESSIONAL ACTIVITIES

- Reviewer, ACM International Conference on Principles of Database Systems (SIGMOD 08)
- Reviewer, IEEE International Conference of Data Engineering (ICDE 06-09)
- Reviewer, IEEE Transactions on Knowledge and Data Engineering (TKDE)
- Reviewer, The International Journal on Very Large Data Bases (VLDB Journal)
- Reviewer, ACM Transactions on Knowledge Discovery from Data (TKDD)

- Reviewer, European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD 2005)
- Reviewer, SIAM Conference on Data Mining (SDM 2005)
- Tutor in Upsilon Phi Epsilon tutoring program for undergraduate students (2007)