
S. OMID FATEMIEH

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EDUCATION

- **University of Illinois at Urbana-Champaign (UIUC),**
Ph.D. student in Computer Science, Aug 2004-present, GPA: 3.81/4.
- **Sharif University of Technology (SUT), Tehran, Iran,**
B.Sc. in Computer Engineering, Major: Software Engineering, Sep 2000-Jul 2004, GPA: 18.1/20.
 - **Ranked 3rd** in Cumulative GPA among 85 Computer Engineering students of the same class, Jul 2004.
 - **Ranked 111th** among over 350,000 applicants in Iran's Nationwide University Entrance Exam for Engineering and Applied Math, Jul 2000.

RESEARCH INTERESTS

- Network security, denial of service (DoS) models and countermeasures, wireless security, DoS resilient wireless networks, secure attribute-based messaging, logical and attribute-based access control, applications of data mining and machine learning in computer security.

PUBLICATIONS

- Khanna S., Venkatesh S., Fatemieh O., Khan F., Gunter C., Adaptive Selective Verification. *IEEE Conference on Computer Communications (INFOCOM '08)*, Phoenix, AZ, April 2008.
- LeMay M., Fatemieh O., Gunter C, PolicyMorph: Interactive Policy Transformations for a Logical Attribute-Based Access Control Framework. *ACM Symposium on Access Control Models And Technologies (SACMAT '07)*, Sophia Antipolis, France, Jun 2007.
- Bobba R., Fatemieh O., Khan F., Khurana H., and Gunter C., Using Attribute-Based Access Control to Enable Attribute-Based Messaging, *Annual Computer Security Applications Conference (ACSAC '06)*, Miami Beach, FL, Dec 2006.
- Bobba R., Fatemieh O., Khan F., Khurana H., and Gunter C., Attribute-Based Messaging, *Midwest Security Workshop (MSW)*, Chicago, IL, Mar 2006.
- Fatemieh, O., Review of the book *Discovering Knowledge in Data: An Introduction to Data Mining*, by D. T. Larose, New York: Wiley, 2004, *Journal of Biopharmaceutical Statistics*, Vol. 16, No. 1, Jan 2006.
- Fatemieh, O., Internet2: Introduction, Applications & Methods, *Computer Report Magazine (Publisher: Informatics Society of Iran)*, Vol. 25, No. 153, Jul 2003.

EXPERIENCE

- **Research Assistant**, Illinois Security Lab, May 2005-present.
Projects: (funded by NSF and MacArthur Foundation research assistantships)
 - Attribute-based control: access control and confidentiality (Aug 2005-present).
 - Constrained logical attribute-based access control (Oct 2005-Jun 2007).
 - Denial of Service models and countermeasures (Feb 2006-present).
- **Summer Intern**, Bell Labs, Lucent Technologies, Murray Hill, NJ, Jun-Aug 2006.
 - Project: Analysis and simulation of distributed DoS (DDoS) attacks on the Internet.

- **Teaching Assistant**, University of Illinois at Urbana-Champaign.
 - Course: Computer Security Architecture, Spring 2005.
 - Course: Information Assurance, Fall 2004.
- **Teaching Assistant**, Sharif University of Technology.
 - Course: Computer Networks, Spring 2004.
 - Course: Computer Structure and Language, Fall 2003.
- **System Developer**, Hirbod Rayaneh Company, Jul-Sep 2003.
 - Project: Analysis, design, implementation, documentation, and testing of several modules of a commercial accounting system.

TECHNICAL SKILLS

- **Programming:** C++, C#, Java, Pascal, Javascript, Perl, Verilog HDL, Tcl/Tk, Motorola 68000.
- **Web Services / XML Standards:** XPath, XQuery, XACML, SOAP, XMLSchema.
- **Database Systems:** SQLServer, PostgreSQL.
- **Environments / Simulators:** NS2 network simulator, Max+PLUS CAD tool.

GRADUATE LEVEL COURSEWORK

- **Computer Systems / Networking / Security Areas:** Advanced Computer Networking, Advanced Computer Security, Computer Security Architecture, Privacy Enhancing Technologies.
- **Data Mining / Databases / Information Retrieval Areas:** Data Mining, Probability and Statistics, Advanced Database Systems, Information Retrieval.
- **Other:** Compilers and Programming Languages, Combinatorial Algorithms, Performance Evaluation of Computer Systems.

MAJOR COURSE PROJECTS

- **Advanced Computer Networking (UIUC):** Designed and simulated a jamming resilient protocol for the control channel in wireless cognitive radio networks.
- **Advanced Computer Security (UIUC):** Designed and simulated Adaptive Selective Bin Verification as an adaptive approach for defending against denial of service attacks aimed at overloading a server (team project).
- **Computer Security Architecture (UIUC):** Built a tool for enforcing context aware attribute-based access control with support for conflict resolution between high level constraints and low level policies, using Prolog and Java (team project).
- **Advanced Database Systems (UIUC):** Developed *HomePage Finder*, a web based solution for automatically finding a researcher/conference web page by using the Google JAVA API and applying heuristics to the returned URLs (team project).
- **Information Retrieval (UIUC):** Devised and implemented methods for generating intelligent links to Web pages by mining access patterns of individuals and the community (team project).
- **Data Mining (UIUC):** Implemented and integrated DBSCAN clustering algorithm with the Analysis Services Module of MS SQL Server 2005 using C++.
- **Network Security (SUT):** Added encryption, decryption and signing features to the Squirrel web-based e-mail system using Javascript and PHP.

- **Advanced Programming (SUT):** Designed and implemented a simple DBMS capable of accepting a subset of SQL (meQL) queries using C++ (team project).
- **Database Systems (SUT):** Designed and implemented an information management system for a sample ISP using PostgreSQL, PHP (team project).
- **Compilers (SUT):** Designed and implemented a Pascal to Motorola 68000 Assembly compiler.
- **Computer Simulation (SUT):** Analyzed policies to maximize the service performance measures of a bank branch, and wrote a program to simulate it.