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RESEARCH AREAS OF INTEREST

Network and systems security, intrusion detection and response systems, cost-sensitive intrusion response, networking, trust management.

EDUCATION:

Currently: IOWA STATE UNIVERSITY (USA)

- Ph.D. in Computer Science expected Summer 2007
Dissertation: “Fast detection and response for anomalous patterns”
- M.S. in Computer Science Fall 2004
Thesis: “Trust management framework for peer-to-peer networks”

1995 – 2000: MOSCOW OPEN SOCIAL UNIVERSITY (Russia)

- B.S. in Law

1996-2000: MURMANSK COLLEGE OF ECONOMICS, STATISTICS AND COMPUTER SCIENCE (Russia)

- B.S in Computer Science

1998-2000: FINNMARK INSTITUTE (Norway)

- Certified in Norwegian language

PROFESSIONAL EXPERIENCE:

January 2007- May 2007

Co-Instructor, ISU, Ames, US.

Course “Security and Privacy Issues in Wireless Networks”

January 2006- Present

Research Assistant, ISU, Ames, US.

Responsibilities include: research on specification-guided anomaly-based intrusion detection systems.

August 2004- December 2005

Teaching Assistant, ISU, Ames, US.

Course “Introduction to Data Structures using C++”

Responsibilities included: teaching recitation sessions, grading homework/programming assignments/examinations, holding regular office hours, occasionally preparing homework assignments/exam questions.

May 2004- August 2005

Web designer. Professor E.Wurtele, ISU, Ames, US.

Responsibilities included: design and implementation of web sites.

December 2003- January 2004

Database programmer. CD-DIAL, ISU, Ames, US.

Responsibilities included: design and implementation of Microsoft Access based databases for conducting phone surveys.

June 2003-present

Researcher. Information System Security Laboratory, ISU, Ames, US.

Responsibilities include: research in trust management in overlay networks, anomaly intrusion detection, design and implementation of anomaly intrusion detectors and evaluation of their capabilities.

May 2002-August 2002

Intern. Global Reach Internet Productions, Ames, US.

Responsibilities included: design and implementation of web based business-to-client solutions for company accounts, design and implementation of test plans for educational applications including multimedia teacher's tools for lecture assembling and tools for delivering web based courses, writing technical documentation for software tools.

PUBLICATIONS

Refereed Journal Articles

N. Stakhanova, S. Basu and J. Wong. (2007) 'A taxonomy of intrusion response systems', *Int. J. Information and Computer Security*, Vol. 1, No. 1/2, pp.169–184.

G. Helmer, J. Wong, M. Slagell, V. Honavar, L. Miller, Y. Wang, X. Wang and N. Stakhanova. (2007) 'Software fault tree and coloured Petri net-based specification, design and implementation of agent-based intrusion detection systems', *Int. J. Information and Computer Security*, Vol. 1, No. 1/2, pp.109–142.

Refereed Conference and Workshop Papers

N. Stakhanova, S. Basu, W. Zhang, X.Wang and J.Wong. Specification Synthesis for Monitoring and Analysis of MANET Protocols. *The International Symposium on Frontiers in Networking with Applications, FINA 2007, Accepted.*

N. Stakhanova, S. Basu and J. Wong. A Cost-Sensitive Model for Adaptive and Preemptive Intrusion Response. *The IEEE International Conference on Advanced Information Networking and Applications, AINA 2007, Accepted.*

N. Stakhanova, S. Basu, R. Lutz and J.Wong. Automatic caching of behavioral patterns for efficient run-time monitoring. *The 2nd IEEE International Symposium on Dependable, Autonomic and Secure Computing (DASC'06), Indianapolis, USA, IEEE. pp. 333-340, 2006.*

N. Stakhanova, S. Basu, J. Wong, and O. Stakhanov. Trust Framework for P2P Networks with Peer-Profile based Anomaly Detection. *ICDCSW '05: The 2nd International Workshop on Security in Distributed Computing Systems (SDCS-2005), Columbus, OH, IEEE Computer Society. pp. 203-209, 2005.*

N. Stakhanova, S. Ferrero, J. Wong and Y. Cai. A reputation-based trust management in peer-to-peer network systems. *2004 International Workshop on Security in Parallel and Distributed Systems, San Francisco, CA, ISCA. pp. 510-515, 2004.*

Technical Reports

N. Stakhanova, S. Basu, W. Zhang, X. Wang and J. Wong. Specification Synthesis for Monitoring and Analysis of MANET Protocols. Technical Report 07-02, Department of Computer Science, Iowa State University (2007)

N. Stakhanova, S. Basu and J. Wong. A Taxonomy of Intrusion Response Systems. Technical Report 06-05, Department of Computer Science, Iowa State University. (2006)

N. Stakhanova, S. Basu, R.Lutz and J. Wong. Automated caching of behavioral patterns for efficient runtime monitoring. Technical Report 06-06, Department of Computer Science, Iowa State University. (2005)

N. Stakhanova and R. Dhingra. A Multilevel Secure Relational Database Model with key-polyinstantiation. Technical Report 06-12, Department of Computer Science, Iowa State University. (2002)

R. Dhingra, N. Stakhanova and M. Hua The Complete MLSK Model - incorporation of lattice operations and XML implementation. Technical Report 06-13, Department of Computer Science, Iowa State University. (2002)

Poster Presentations

Trust Framework for P2P Networks using Peer Profile-Based Anomaly Technique.
5th Annual Information Security Symposium. CERIAS 2004.

COMPUTER SKILLS:

Operationg Systems: Linux,Windows, MS-DOS

Databases: MS Access, SQLPlus, MySql

Programming languages: Turbo Pascal 7.0, Borland Delphi.5.0, SQL, C/C++, Java, HTML, Matlab

Specification and model checking tools: Saphire 6.8, SPIN, SCR

AWARDS:

June 2000 Moscow Open Social University, Diploma with excellence

May 2000 A grant from the US Department of State for a graduate study in the US

May 1998 Norwegian Ministry of the Foreign Affairs Fellowship for a study at Finnmark Institute

PROFESSIONAL ACTIVITIES:

Reviewer, Information Sciences—Informatics and Computer Science: An International Journal

Reviewer, Annual International Computer Software and Applications Conference (COMPSAC)

Reviewer, International Performance Computing and Communications Conference (IPCCC)

Member, IEEE