

PHILIP K. CHAN

Department of Computer Sciences
Florida Institute of Technology
Melbourne, FL 32901

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EDUCATION

Ph.D. in Computer Science, Columbia University, New York, New York (1996)

Thesis: *An extensible meta-learning approach for scalable and accurate inductive learning.*

M.S. in Computer Science, Vanderbilt University, Nashville, Tennessee (1988)

Master's paper: *A critical review of CN2: A polythetic classifier system.*

B.S. in Computer Science (*summa cum laude* and honors program), Southwest Texas State University, San Marcos, Texas (1986)

Honors thesis: *Development of Efficiency Decline Routine.*

RESEARCH AND WORK EXPERIENCE

Associate Professor, Dept. of Computer Sciences, Florida Institute of Technology (2002-present);
Assistant Professor (1997-2002); **Visiting Assistant Professor** (1995-97).

Visiting Scientist, Laboratory of Computer Science, Massachusetts Institute of Technology (2002-3).

Research Assistant, Dept. of Computer Science, Columbia University (1988-95); Dept. of Computer Science, Vanderbilt University (1986-88).

Research Intern, Siemens Corporate Research (Summer, 1993); GTE Labs (Summer, 1992 & 1991); Citibank (Summer, 1990).

TEACHING EXPERIENCE

Associate Professor, Computer Science, Florida Institute of Technology: *Advances in the WWW, Artificial Intelligence, Data Structures and Algorithms, Database Systems, Distributed Computing, Fundamentals of Software Development 1, Intelligent Systems and the Internet, Machine Learning, and Scientific Writing.*

Tutorial Instructor, "Data Mining for Computer Security," C. Brodley & P. Chan, *ACM Intl Conf. on Knowledge Discovery and Data mining*, 2003; *SIAM Intl. Conf. on Data Mining*, 2004.

Instructor, Department of Computer Science, Columbia University: *Introduction to Computer Science.*

Teaching Assistant, Department of Computer Science, Columbia University: *Artificial Intelligence, Computer Networks, and Database Systems.*

Lab Instructor, Department of Computer Science, Vanderbilt University: *FORTTRAN Programming.*

Volunteer Tutor, Big Brothers Big Sisters (2001-02, 2003-present); AVID Program, Palm Bay High School (2003-04), Eau Galie High School (2001-02); Tutoring Plus, Cambridge, MA (2002-03); Barnard-Columbia Education Project, Columbia University (1988-1995).

PUBLICATIONS

Book

1. *Advances in Distributed And Parallel Knowledge Discovery*. H. Kargupta and P. Chan (editors). AAAI/MIT Press, 2000.

Refereed Journals

1. "Increasing coverage to improve detection of network and host anomalies " G. Tandon and P. Chan. *Machine Learning*, to appear.
2. "Learning Implicit User Interest Hierarchy for Context in Personalization." H. Kim and P. Chan. *Applied Intelligence*, 28(2):153-166, 2008.
3. "Toward accurate dynamic time wrapping in linear time and space." S. Salvador and P. Chan. *Intelligent Data Analysis*, 11(5):561-580, 2007.
4. "Machine Learning for Computer Security." P. Chan and R. Lippmann. *J. Machine Learning Research*, 7:2669-2672, 2006.
5. "On the Learning of System Call Attributes for Host-based Anomaly Detection." G. Tandon and P. Chan. *International Journal on Artificial Intelligence Tools*, 15(6):875-892, 2006.
6. "Learning States and Rules for Detecting Anomalies in Time Series." S. Salvador and P. Chan. *Applied Intelligence*, 23(3):241-255, 2005.
7. "Using Artificial Anomalies to Detect Known and Unknown Network Intrusions." W. Fan, M. Miller, S. Stolfo, W. Lee, and P. Chan. *Knowledge and Information Systems*, 6(5):507-527, 2004.
8. "Integrating Multiple Learned Models for Improving and Scaling Machine Learning Algorithms." P. Chan, S. Stolfo & D. Wolpert. *Machine Learning*, 36(1&2):5-7, 1999.
9. "Distributed data mining in credit card fraud detection." P. Chan, W. Fan, A. Prodromidis, and S. Stolfo. *IEEE Intelligent Systems*, 14(6):67-74, 1999.
10. "On the accuracy of meta-learning for scalable data mining." P. Chan and S. Stolfo. *J. Intelligent Information Systems*, 8:5-28, 1997.
11. "Systems for knowledge discovery in databases." C. Matheus, P. Chan, and G. Piatetsky-Shapiro. *IEEE Trans. on Knowledge and Data Engineering*, 5:903-913, 1993.
12. "PARULEL: Parallel rule processing by meta-redaction rules." S. Stolfo, O. Wolfson, P. Chan, H. Dewan, L. Woodbury, J. Glazier, and D. Ohsie. *Journal of Parallel and Distributed Computing*, 13:366-382, 1991.
13. "Statistical guidance in concept learning." D. Fisher and P. Chan. *Annals of Mathematics and Artificial Intelligence*, 2:135-147, 1990.

Refereed Book Chapters

1. "Personalized Web Search by Using Learned User Profiles in Re-ranking." J. Hu and P. Chan. In *Advances in Web Mining and Web Usage Analysis*, Springer, to appear.
2. "Personalized Search Results with User Interest Hierarchies Learnt from Bookmarks." H. Kim and P. Chan. In *Advances in Web Mining and Web Usage Analysis* (LNCS 4198), O. Nasraoui, O. Zaine, M. Spiliopolou, B. Mobasher, B. Masand and P. Yu (editors), pp 158-176, Springer, 2006.
3. "Data cleaning and enriched representations for anomaly detection in system calls." G. Tandon, P. Chan, and D. Mitra. In *Machine Learning and Data Mining for Computer Security: Methods and Applications*, M. Maloof (editor), Springer, pp. 137-156, 2006.

4. "Learning rules and clusters for anomaly detection in network traffic." P. Chan, M. Mahoney & M. Arshad. In *Managing Cyber Threats: Issues, Approaches and Challenges*, V. Kumar, J. Srivastava, A. Lazarevic (editors), Springer, pp. 81-99, 2005.
5. "Constructing web user profiles: A non-invasive learning approach." P. Chan. In *Web Usage Analysis and User Profiling*, M. Spiliopoulou and B. Masand (editors), Springer-Verlag, pp. 39-55, 2000.
6. "Meta-learning in distributed data mining systems: Issues and approaches." A. Prodrromidis, P. Chan, and S. Stolfo. In *Advances in Distributed And Parallel Knowledge Discovery*, AAAI/MIT Press, pp. 81-113, 2000.
7. "Distributed and Parallel Data Mining: Emergence, Growth, and Future Directions." H. Kargupta, C. Kamath, and P. Chan. In *Advances in Distributed And Parallel Knowledge Discovery*, AAAI/MIT Press, pp. 409-417, 2000.

Refereed Conferences

1. "Weighting versus Pruning in Rule Validation for Detecting Network and Host Anomalies." G. Tandon & P. Chan. In *Proc. ACM Intl. Conf. on Knowledge Discovery and Data Mining (KDD)*, pp. 697-706, 2007. (Acceptance rate for full papers: 18%)
2. "Modeling Multiple Time Series for Anomaly Detection." P. Chan & M. Mahoney. In *Proc. IEEE Intl. Conf. on Data Mining (ICDM)*, pp. 90-97, 2005. (Acceptance rate for regular papers: 11%)
3. "Implicit Indicators for Interesting Web Pages." H. Kim & P. Chan. In *Proc. Intl. Conf. on Web Information Systems and Technologies (WEBIST)*, pp. 270-277, 2005. (Acceptance rate for regular papers: 49%)
4. "Project EMD-MLR: Educational Material Development and Research in Machine Learning for Undergraduate Students." G. Anagnostopoulos, M. Geogiopoulos, K. Ports, S. Richie, N. Cardinale, M. White, V. Kepuska, P. Chan, A. Wu & M. Kysilka. In *Proc. 2005 ASEE Annual Conf. & Expo.*, 2005.
5. "Learning Useful System Call Attributes for Anomaly Detection." G. Tandon & P. Chan. In *Proc. 18th Intl. FLAIRS Conf.*, pp. 405-410, 2005. (Overall acceptance rate: 162/308=53%; one of 12 invited to submit to a special issue of *Intl. J. on AI Tools*: 12/308=4%)
6. "Identifying Variable-Length Meaningful Phrases with Correlation Functions." H. Kim & P. Chan. In *Proc. 16th IEEE Intl. Conf. on Tools for AI (ICTAI)*, pp. 30-38, 2004. (Acceptance rate for regular papers: 49%)
7. "Determining the Number of Clusters/Segments in Hierarchical Clustering/Segmentation Algorithms." S. Salvador & P. Chan. In *Proc. 16th IEEE Intl. Conf. on Tools for AI (ICTAI)*, pp. 576-584, 2004. (Acceptance rate for regular papers: 49%)
8. "Learning States and Rules for Time Series Anomaly Detection." S. Salvador, P. Chan, and J. Brodie. In *Proc. 17th Intl. FLAIRS Conf.*, pp. 300-305, 2004. (Acceptance rate for the general conf: 49%)
9. "Motif-oriented Representation of Sequences for a Host-based Intrusion Detection System." G. Tandon, D. Mitra, and P. Chan. In *Proc. 17th Intl. Conf. on Industrial & Engineering Applications of AI & Expert Systems (IEA/AIE)*, pp. 605-615, 2004. (Acceptance rate: 41%)
10. "Learning Rules for Anomaly Detection of Hostile Network Traffic." M. Mahoney and P. Chan. In *Proc. Third IEEE Intl. Conf. Data Mining (ICDM)*, pp. 601-4, 2003. (Acceptance rate for regular/short papers: 26%)
11. "An Analysis of the 1999 DARPA/Lincoln Laboratory Evaluation Data for Network Anomaly Detection." M. Mahoney and P. Chan. In *Proc. 6th Intl. Symp. Recent Advances on Intrusion Detection (RAID)*, pp. 220-237, 2003. (Acceptance rate: 30%)

12. "Learning Implicit User Interest Hierarchy for Context in Personalization." H. Kim and P. Chan. In *Proc. Intl. Conf. on Intelligent User Interfaces (IUI)*, pp. 101-108, 2003. (Acceptance rate for full papers: 21%)
13. "Learning Nonstationary Models of Normal Network Traffic for Detecting Novel Attacks." M. Mahoney and P. Chan. In *Proc. Eighth Intl. Conf. on Knowledge Discovery and Data Mining (KDD)*, pp. 376-385, 2002. (Acceptance rate for full papers: 12%)
14. "Using Artificial Anomalies to Detect Unknown and Known Network Intrusions." W. Fan, M. Miller, S. Stolfo, W. Lee, P. Chan. In *Proc. IEEE Intl. Conf. Data Mining (ICDM)*, pp. 123-130, 2001. (Acceptance rate for regular papers: 20%)
15. "A Protocol Language Approach to Generating Client-Server Software." M. Douglas and P. Chan. In *Proc. Thirteenth Intl. Conf. Parallel and Distributed Computing and Systems*, pp. 649-654, 2001, **(nominated for best paper awards)**.
16. "Real Time Data Mining-based Intrusion Detection." Lee, Stolfo, Chan, Eskin, Fan, Miller, Hershkop, and Zhang. In *Proc. Second DARPA Information Survivability Conference and Exposition (DISCEX)*, pp. I89-100, 2001.
17. "Cost-based Modeling for Fraud and Intrusion Detection: Results from the JAM Project." S. Stolfo, W. Fan, W. Lee, A. Prodromidis, & P. Chan. In *Proc. DARPA Information Survivability Conf. and Exposition (DISCEX)*, IEEE Computer Press, pp. II 130-144, 2000.
18. "AdaCost: Misclassification Cost-sensitive Boosting." W. Fan, S. Stolfo, J. Zhang, and P. Chan. In *Proc. Sixteenth Intl. Conf. Machine Learning (ICML)*, pp. 99-105, 1999. (Acceptance rate: 36%)
19. "Toward scalable learning with non-uniform class and cost distributions: A case study in credit card fraud detection." P. Chan and S. Stolfo. In *Proc. Fourth Intl. Conf. on Knowledge Discovery and Data Mining (KDD)*, pp. 164-168, 1998. (Acceptance rate for plenary/poster papers: 27%)
20. "JAM: Java agents for meta-learning over distributed databases." S. Stolfo, A. Prodromidis, S. Tselepis, W. Lee, W. Fan, and P. Chan. In *Proc. Third Intl. Conf. on Knowledge Discovery and Data Mining (KDD)*, pp. 74-81, 1997 **(runner-up to Best Paper in Applied Research)**. (Acceptance rate for plenary papers: 10%)
21. "Sharing learned models among remote database partitions by local meta-learning." P. Chan and S. Stolfo. In *Proc. Second Intl. Conf. Knowledge Discovery and Data Mining (KDD)*, pp. 2-7, 1996. (Acceptance rate for regular papers: 20%)
22. "Scaling learning by meta-learning over disjoint and partially replicated data." P. Chan and S. Stolfo. In *Proc. Ninth Florida AI Research Symposium (FLAIRS)*, pp. 151-155, 1996.
23. "A comparative evaluation of voting and meta-learning on partitioned data." P. Chan and S. Stolfo. In *Proc. Twelfth Intl. Conf. on Machine Learning (ICML)*, pp. 90-98, 1995. (Acceptance rate: 32%)
24. "Learning arbiter and combiner trees from partitioned data for scaling machine learning." P. Chan and S. Stolfo. In *Proc. Intl. Conf. on Knowledge Discovery and Data Mining (KDD)*, pp. 39-44, 1995.
25. "Toward multistrategy parallel and distributed learning in sequence analysis." P. Chan and S. Stolfo. In *Proc. First Intl. Conf. on Intelligent Systems for Molecular Biology (ISMB)*, pp. 65-73, 1993.
26. "Experiments on multistrategy learning by meta-learning." P. Chan and S. Stolfo. In *Proc. Second Intl. Conf. on Information and Knowledge Management (CIKM)*, pp. 314-323, 1993.
27. "The ALEXSYS mortgage pool allocation system." S. Stolfo, P. Chan, L. Woodbury, J. Glazier, and D. Ohsie. In *Proc. First Intl. Conf. on AI Applications on Wall Street*, pp. 79-84, 1991.

Refereed Workshops

1. “Personalized Web Search by Using Learned User Profiles in Re-ranking.” J. Hu and P. Chan. In *Workshop on Web Mining and Web Usage Analysis (WEBKDD), SIGKDD Conf*, 2008.
2. “Trajectory Boundary Modeling of Time Series for Anomaly Detection.” M. Mahoney and P. Chan. In *Workshop on Data Mining Methods for Anomaly Detection, SIGKDD Conf*, 2005.
3. “Personalized Ranking of Search Results with Learned User Interest Hierarchies from Bookmarks.” H. Kim and P. Chan. In *Workshop on Web Mining and Web Usage Analysis (WEBKDD), SIGKDD Conf*, 2005.
4. “MORPHEUS: Motif Oriented Representations to Purge Hostile Events from Unlabeled Sequences.” G. Tandon, P. Chan, and D. Mitra. In *Workshop on Visualization and Data Mining for Computer Security (Viz/DMSEC), 11th ACM Conf. on Computer and Communications Security (CCS)*, pp. 16-25, 2004.
5. “FastDTW: Toward Accurate Dynamic Time Warping in Linear Time and Space.” S. Salvador and P. Chan. In *KDD Workshop on Mining Temporal and Sequential Data*, 2004.
6. “Learning Rules from System Call Arguments and Sequences for Anomaly Detection.” G. Tandon and P. Chan. In *ICDM Workshop on Data Mining for Computer Security*, pp. 20-29, 2003. (Acceptance rate: 47%)
7. “Boundary Detection in Tokenizing Network Application Payload for Anomaly Detection.” R. Vargiya and P. Chan. In *ICDM Workshop on Data Mining for Computer Security*, pp. 50-59, 2003. (Acceptance rate: 47%)
8. “Distributed Communication for Highly Mobile Agents.” M. Samarah and P. Chan. In *Fourth Pacific Rim Intl. Workshop on Multi-agents*, 2001.
9. “A non-invasive learning approach to building web user profiles.” P. Chan. In *Work. Notes KDD-99 Workshop on Web Usage Analysis and User Profiling*, pp. 7-12, 1999.
10. “Using conflicts among multiple base classifiers to measure the performance of stacking.” W. Fan, S. Stolfo, and P. Chan. In *Work. Notes ICML-99 Workshop on Recent Advances in Meta-Learning and Future Work*, pp. 10-17, 1999.
11. “Learning with non-uniform class and cost distributions: Effects and a distributed multi-classifier approach.” P. Chan and S. Stolfo. In *KDD-98 Workshop on Distributed Data Mining*, pp. 1-9, 1998.
12. “Credit card fraud detection using meta-learning: Issues and initial results.” S. Stolfo, W. Fan, W. Lee, A. Prodromidis, and P. Chan. In *AAAI-97 Workshop on AI Approaches to Fraud Detection and Risk Management*, pp. 83-90, 1997.
13. “Learning patterns from Unix process execution traces for intrusion detection.” W. Lee, S. Stolfo, and P. Chan. In *AAAI Workshop on AI Approaches to Fraud Detection and Risk Management*, pp. 91-98, 1997.
14. “A comparative evaluation of combiner and stacked generalization.” D. Fan, P. Chan, and S. Stolfo. In *Working Notes AAAI Work. on Integrating Multiple Learned Models*, pp. 40-46, 1996.
15. “Toward scalable and parallel learning: A case study in splice junction prediction.” P. Chan and S. Stolfo. In *ICML-94 Work. on Machine Learning and Molecular Biology*, 1994.
16. “Toward parallel and distributed learning by meta-learning.” P. Chan and S. Stolfo. In *Working Notes AAAI Work. on Knowledge Discovery in Databases*, pp. 227-240, 1993.
17. “Meta-learning for multistrategy and parallel learning.” P. Chan and S. Stolfo. In *Proc. Second Intl. Work. on Multistrategy Learning*, pp. 150-165, 1993.

18. "The ALEXSYS mortgage pool allocation expert system." S. Stolfo, L. Woodbury, J. Glazier, and P. Chan. In *AAAI-90 Work. on AI and Business*, 1990.
19. "Inductive learning with BCT." P. Chan. In *Proc. of the Sixth Intl. Work. on Machine Learning*, pp. 104-108, 1989.
20. "Statistical guidance in concept learning." D. Fisher and P. Chan. In *Second Intl. Work. on AI and Statistics*, pp 4:1-10, 1989.

Edited Collections

1. *Machine Learning for Computer Security*. P. Chan and R. Lippmann. Special Topic in J. Machine Learning Research, 7:2669–2769, 2006.
2. *Workshop Notes of KDD Workshop on Data Mining Methods for Anomaly Detection*. S. Bay, P. Chan, T. Lane, and D. Margineantu (editors). 2005.
3. *Workshop Notes of CCS Workshop on Visualizaton and Data Mining for Computer Security*. C. Brodley, P. Chan, R. Lippmann, and B. Yurcik (editors). 2004.
4. *Workshop Notes of ICDM Workshop on Data Mining for Computer Security*. P. Chan, V. Kumar, W. Lee, and S. Parthasarathy (editors). 2003.
5. *Integrating Multiple Learned Models for Improving and Scaling Machine Learning Algorithms*. P. Chan, S. Stolfo & D. Wolpert (editors). Special issue in *Machine Learning*, 36(1&2), 1999.
6. *Working Notes of KDD Workshop on Distributed Data Mining*. H. Kargupta and P. Chan (editors). 1998.
7. *Working Notes of AAAI Workshop on Integrating Multiple Learned Models for Improving and Scaling Machine Learning Algorithms*. P. Chan, S. Stolfo, and D. Wolpert (editors). 1996.

Theses and others

1. "Intelligent Systems at Florida Tech." P. Chan, R. Menezes, D. Mitra, E. Ribeiro, and M. Silaghi. *IEEE Intelligent Informatics Bulletin*, 8(1):5-6, 2007.
2. "Data mining methods for anomaly detection KDD-2005 workshop report." D. Margineantu, S. Bay, P. Chan, and T. Lane. *ACM SIGKDD Explorations Newsletter*, 7(2): 132-136, 2005.
3. "Data Mining-based Intrusion Detectors: An Overview of the Columbia IDS Project." S. Stolfo, W. Lee, P. Chan, W. Fan, and E. Eskin. *SIGMOD Record*, 30(4):5-14, 2001.
4. "The Distributed Data Mining Workshop." H. Kargupta and P. Chan. *AI Magazine*, 20(1):126, 1999.
5. "A non-invasive learning approach to building web user profiles." P. Chan. *Proc. 2nd Annual NASA KSC Partners in Education and Research Conference*, pp. 49-51, 1999.
6. "An extensible meta-learning approach for scalable and accurate inductive learning." P. Chan. PhD Thesis, Dept. of Computer Science, Columbia University, 1996 (Technical Report CUCS-044-96).
7. "Machine learning in molecular biology sequence analysis." P. Chan. Technical Report CUCS-041-91, Dept. of Computer Science, Columbia University, 1991.
8. "A critical review of CN2: A polythetic classifier system." P. Chan. Master's Paper, Dept. of Computer Science, Vanderbilt University, 1988 (Technical Report CS-88-09).

GRANTS

1. “Project EMD-MLR: Educational materials development through the integration of machine learning research into senior design projects.” G. Anagnostopoulos, P. Chan, V. Kepuska, and K. Ports. NSF, DUE-0341601, \$99,996, 2004-06.
 2. “Adaptive learning for real-time expert systems in monitoring and control.” B. Buckley and P. Chan. NASA, NAS10-02044, \$500,000, 2003-05.
 3. “Adaptive learning for real-time expert systems in monitoring and control.” B. Buckley and P. Chan. NASA, \$99,800, 2001-02.
 4. “A data mining approach for building cost-sensitive and light intrusion detection models.” W. Lee, S. Stolfo, and P. Chan. DARPA, F30602-00-1-0603, \$1,791,903, 2000-03.
 5. “Fraud and intrusion detection for financial information systems using meta-learning agents.” S. Stolfo, FSTC, and P. Chan. DARPA, F30602-96-1-0311, \$1.5M, 1996-99.
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PhD/MS THESES

PhD Dissertation Advising

1. “Machine Learning for Host-based Anomaly Detection.” Gaurav Tandon. PhD, Florida Tech, 2008.
2. “Learning Implicit User Interest Hierarchy for Web Personalization.” Hyoung Kim. PhD, Florida Tech, 2005.
3. “A Machine Learning Approach to Detecting Attacks by Identifying Anomalies in Network Traffic.” Matthew Mahoney. PhD, Florida Tech, 2003.

MS Thesis Advising

1. “Personalized Web Search by Using Learned User Profiles in Re-ranking.” Jia Hu. MS, Florida Tech, 2008.
2. “Learning States for Detecting Anomalies in Time Series.” Stan Salvador. MS, Florida Tech, 2004.
3. “Modeling Web User Interest with Implicit Indicators.” Ki-Sub Jung. MS, Florida Tech, 2001.
4. “MSPL: A Protocol Language for Generating Client-Server Software.” Melvin Douglas. MS, Florida Tech, 2000.
5. “Generating E-Coupons Based on User Profiles.” Deepinder Singh. MS, Florida Tech, 2000.
6. “Intelligent Software Agents in Ecommerce: Automated Grocery Shopping.” Rishi Gupta. MS, Florida Tech, 1999.
7. “AGI: A Communication Architecture for Mobile Agents.” Mohammad Samarah. MS, Florida Tech, 1999.
8. “Complexity of Adaptive Spatial Indexing for Robust Distributed Data.” Matt Mahoney. MS, Florida Tech, 1998.

PhD Dissertation Committees

1. “Cost-sensitive, scalable and adaptive learning using ensemble methods.” Wei Fan. PhD, Columbia University, 2000.
2. “A semantic net implemented with synchronized neurons for binding and inferencing.” Mark Atkins. PhD, Florida Tech, 2000.

MS Thesis Committees

1. “Changing the Modulus of Secret Sharing, Accessing Arrays of Secrets and Incentive Mixnets.” Timothy Atkinson. MS, Florida Tech, 2007.
 2. “Keyword Spotting Using Normalization of Posterior Probability Confidence Measures.” Rachna Vargiya. MS, Florida Tech, 2005.
 3. “Identifying Multi-pair Complementary Patterns in DNA Sequences.” Hyoung-Rae Kim. MS, Florida Tech, 2001.
 4. “Effective Maintenance of Search Engine Databases.” Seung Kwon Kim. MS, Florida Tech, 2000.
 5. “A Real-Time Interactive Three Dimensional Rendering System.” Constantinos Loizides. MS, Florida Tech, 1996.
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INVITED TALKS

- “Machine learning for anomaly detection.” National Security Research Institute (NSRI) and Electronics and Telecommunications Research Institute (ETRI), S. Korea, 2007.
 - “Learning rules for anomaly detection.” Culiacan Institute of Technology, Mexico, 2005; UC, Davis, 2004; MIT Lincoln Lab, 2003; IBM TJ Watson Research, 2003; Florida International Univ, 2003.
 - “A non-invasive learning approach to building web user profiles.” Tufts Univ., 2000; Boston College, 2000; Northeastern Univ., 2000; Southern Methodist Univ., 2000.
 - “An extensible meta-learning approach for scalable and accurate inductive learning.” Univ. of Maryland, Baltimore County, 1995; Brigham Young Univ., 1995; Florida Tech, 1995.
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HONORS

- Research Excellence Award, Dept of Computer Sciences, Florida Tech, 2005.
 - Nominated for best paper awards, *Thirteenth Intl. Conf. Parallel and Distributed Computing and Systems* (2001).
 - Honorable Mention (runner-up to best paper) in Applied Research, *Third Intl. Conf. on Knowledge Discovery and Data Mining* (1997)
 - **Columbia University:** Full-tuition Assistantship with stipend (1988-95)
 - **Vanderbilt University:** Full-tuition Assistantship with stipend (1986-88)
 - **Southwest Texas State University:** Top-five finalist for Lyndon B. Johnson Outstanding Senior Award (1986), Emmie Craddock Scholarship (1985-86), Southwest Texas State University Scholarship (1984-85), and Computer Science Association Scholarship (1984-85).
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PROFESSIONAL ACTIVITIES

Research Proposals

- Reviewer, *Australian Research Council, Discovery Project*, 2004.
- Panelist, *NSF Information Technology Research*, 2003.
- Reviewer, *NASA Intelligent Systems Program*, 2000, 2003, 2004.
- Reviewer, *US Civilian Research and Development Foundation for the Independent States of the Former Soviet Union*, 2003.
- Panelist, *NASA Advanced Cross Enterprise Technology Development*, 2000.

Journals

- Co-editor, *Journal of Machine Learning Research* special issue on *Machine Learning for Computer Security*, 2006.
- Associate Editor, *Knowledge and Information Systems*, 2004-present.
- Co-editor, *Machine Learning Journal* special issue on *Integrating Multiple Learned Models for Improving and Scaling Machine Learning Algorithms*, 1999.
- Editorial review board member, *Journal of Database Management* (1998-present).
- Reviewer, *Data and Knowledge Engineering, Data Mining and Knowledge Discovery, Decision Support Systems, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Dependable and Secure Computing, IEEE Transactions on Neural Networks, IEEE Expert, IEEE Concurrency, IEEE Intelligent Systems, Information Processing Letters, Information Fusion Journal, Journal of Experimental and Theoretical Artificial Intelligence, Journal of Computing, Journal on Artificial Intelligence Research, Machine Learning, Neurocomputing*.

Conferences, Workshops, and Tutorials

- Organizing Committees:
 - Workshop Co-Chair, *SIAM Intl. Conf. Data Mining (SDM)*, 2007.
 - Program committee vice chair, *IEEE Intl. Conf. Data Mining (ICDM)*, 2006.
 - General Co-Chair, *19th Intl. FLAIRS Conf.*, 2006.
 - Publicity Chair, *SIAM Intl. Conf. Data Mining (SDM)*, 2005.
 - Co-chair, *KDD Workshop on Data Mining Methods for Anomaly Detection*, 2005.
 - Co-chair, *CCS Workshop on Visualization and Data Mining for Computer Security*, 2004.
 - Co-chair, *ICDM Workshop on Data Mining for Computer Security*, 2003.
 - Local arrangement chair, *IEEE Intl. Conf. Data Mining (ICDM)*, 2003.
 - Workshop chair, *ACM Intl. Conf. Knowledge Discover and Data Mining (KDD)*, 2000.
 - Co-chair, *KDD Workshop on Distributed Data Mining*, 1998.
 - Co-chair, *AAAI Workshop on Integrating Multiple Learned Models for Improving and Scaling Machine Learning Algorithms*, 1996.
- Program Committees:
 - *ACM Intl. Conf. Knowledge Discovery and Data Mining (KDD)*, 2000, 2003, 2006-08.
 - *SIAM Intl. Conf. Data Mining (SDM)*, 2001-04, 2006-09.
 - *IEEE Intl. Conf. Data Mining (ICDM)*, 2001-05, 2007.
 - *AAAI National Conf. Artificial Intelligence (AAAI)*, 2007.
 - *Workshop on a Mining Multiple Information Sources, ACM Intl. Conf. on Knowledge Discovery and Data Mining (KDD)*, 2007.
 - *Meta-learning Workshop, 16th Intl. Conf. Machine Learning*, 1999.
 - *High Performance Data Mining Workshop, Intl. Parallel Processing Symposium & Symposium on Parallel and Distributed Processing*, 1999 & 2000.
 - *Workshop on Parallel and Distributed Data Mining, 2nd Pacific-Asia Conference on Knowledge Discovery and Data Mining*, 1999.
- Tutorials:
 - “Data Mining for Computer Security.” C. Brodley & P. Chan. *SIAM Intl. Conf. on Data Mining*, 2004.
 - “Data Mining for Computer Security.” C. Brodley & P. Chan. *ACM Intl Conf. on Knowledge Discovery and Data mining*, 2003.

Books

- Reviewer, *Handbook of Information Security* and *Introduction to Data Mining*.

Organizations

- Member, *Association for Computing Machinery (ACM)* and *American Association for Artificial Intelligence (AAAI)*.
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UNIVERSITY SERVICES

- University Research Council (2004-present)
- PhD Admission Committee, Chair (2000-present)
- Upsilon Pi Epsilon (CS Honors Society) Advisor (1995-present)
- Graduate Committee (1998-99, 2005-present)
- Faculty Senator (2001-02)
- Graduate Comprehensive Exam Committee (1999-2002)
- Hiring Committee (1999-2000)
- Undergraduate Committee (1998-99)
- Initiated and conducting a tutorial on “Problem Solving and Software” for weak first-year undergraduate students (Spring 1997)
- Curriculum Committee (1996-98)