

## References

- [AAAI, 2002] Fraud Detection and Prevention, <http://www.aaai.org/AITopics/html/fraud.html>
- [Agawal *et al.*, 1993] Agawal, R., Imielinski, T., and Swami, A., "Mining Association Rules between Sets of items in Large Databases", *Proceedings of the ACM SIGMOD International Conference on the Management of Data (SIGMOD'93)*, pp. 207-216, Washington, D.C., May 1993.
- [Aleksandra and Morton, 1995] Aleksandra, I., and Morton, H., *Introduction to Neural Computing*, Thompson International Press, 1995.
- [Anderson, 1980] Anderson, J. P., "Computer Security Threat Monitoring and Surveillance", Technical Report, James P. Anderson Co., Fort Washington, PA, April, 1980.
- [Anderson, 1993] Anderson, D., "Safeguard Final Report: Detecting Unusual Program Behaviour Using the NIDES Statistical Component", Technical Report, Computer Science Laboratory, SRI International, Menlo Park, CA, December 1993.
- [Axelsson, 2000] Axelsson, S., "Intrusion Detection Systems: A Taxonomy and Survey", Technical Report No 99-15, Dept. of Computer Engineering, Chalmers University of Technology, Sweden, March 2000.
- [Balasubramaniyan *et al.*, 1998] Balasubramaniyan, J. S., *et al.*, "An Architecture for Intrusion Detection using Autonomous Agents", Department of Computer Sciences, Purdue University, Coast TR 98-05, 1998.  
Available at <http://www.cs.purdue.edu/coast/coast-library.html>
- [Barbara, *et al.*, 2000] Barbara, D., Wu, N., and Jajodia, S., "Detecting Novel Network Intrusions using Bayes Estimators", *Proceeding of 1<sup>st</sup> First SIAM Conference on Data Mining*, 2000.  
Available at <http://ise.gmu.edu/~nwu/MyWeb/Paper/paper.html>
- [Baldwin, 1896] Baldwin, J. M., "A New Factor in Evolution", *American Naturalist*, Vol.30, pp.441-451, 1896.
- [Ballet *et al.*, 1997] Ballet, P., Tisseau, J., and Harrouet, F., "A Multiagent System to Model a Human Humoral Response", *Proceeding of IEEE Systems, Man and Cybernetics*, pp.357-362, 1997.
- [Ballet *et al.*, 2000] Ballet, P., Rodin, V., and Tisseau, J., "Immune Mechanisms to Regulate Multi-Agent Systems", *Proceeding of Artificial Immune System Workshop, Genetic and Evolutionary Computation Conference (GECCO' 2000)*, pp.36-37, 2000.
- [Balthrop *et al.*, 2002] Balthrop, J., Forrest, S., and Glickman, M. R., "Revisiting LYSIS: Parameters and Normal Behaviour", *the Congress on Evolutionary Computation (CEC-2002)*, Honolulu, pp.1045 - 1050, May 12-17, 2002.
- [Bersini, 1991] Bersini, H., "Immune Network and Adaptive Control", *Proceeding of the 1<sup>st</sup> European Conference on Artificial Life*, pp.217-226, 1991.
- [Bersini and Varela, 1990] Bersini, H., and Varela, F., "Hints for Adaptive Problem Solving Gleaned from Immune Networks", *Proceeding of Parallel Problem Solving from Nature (PPSN), the 1<sup>st</sup> Workshop*, pp.343-354, 1990.

[Bersini and Varela, 1994] Bersini, H., and Varela, F., "The Immune Learning Mechanisms: Reinforcement, Recruitment and Their Applications", *Computing with Biological Metaphors*, (Ed.) Ray Paton, Chapman & Hall, pp.166-192, 1994.

[Bernstein *et al.*, 1996] Bernstein, T., Bhimani, A. B., Schultz, E. and Siegel, C. A., *Internet Security for Business*, John Wiley & Sons, 1996.

[Bradley *et al.*, 2000] Bradley, D., Ortega-Sanchez, C., and Tyrrell, A., "Embryonics + Immunotronics: A Bio-Inspired Approach to Fault Tolerance", *proceedings of 2nd NASA/DoD Workshop on Evolvable Hardware*, Silicon Valley, USA, 2000.  
Available at <http://www.elec.york.ac.uk/bio/welcome.html>

[Bradley and Tyrrell, 2000a] Bradley, D. W., and Tyrrell, A. M., "Immunotronics: Hardware Fault Tolerance Inspired by the Immune System", *Proceedings of the 3rd International Conference on Evolvable Systems Lecture Notes in Computer Science*, Springer-Verlag, Vol. 1801, pp.11-20, 2000.

[Bradley and Tyrrell, 2000b] Bradley, D. W., and Tyrrell, A. M., "The Architecture for a Hardware Immune System", *proceedings of 3rd NASA/DoD Workshop on Evolvable Hardware*, Long Beach, California, USA, pp. 193-200, July 2000.

[Bradley and Tyrrell, 2001] Bradley, D. W., and Tyrrell, A. M., "Multi-layered Defence Mechanisms: Architecture, Implementation and Demonstration of a Hardware Immune System", *Proceedings of 4th International Conference on Evolvable Systems*, Tokyo, Japan, pp.140-150, October 2001.

[Burgess, 1998a] Burgess, M., "Computer Immunology", *Proceedings of the 12th System Administration Conference (USENIX/LISA) 1998*.  
Available at <http://www.iu.hio.no/cfengine/papers.html>

[Burgess, 1998b] Burgess, M., "Cfengine as a Component of Computer Immune-Systems", *Proceedings of the Norwegian Informatics Conference 1998*.  
Available at <http://www.iu.hio.no/cfengine/papers.html>

[Burgess, 2000] Burgess, M., "Evaluating Cfengine's Immunity Model of Site Maintenance", *Proceedings of the 2nd SANE system administration conference (USENIX/NLUUG)*, 2000.  
Available at <http://www.iu.hio.no/cfengine/papers.html>

[Callard, 2000] Callard, R., Personal Communication, 2000.

[Crosbie and Spafford, 1995a] Crosbie, M., and Spafford, E. H., "Active Defence of a Computer System Using Autonomous Agents", Department of Computer Sciences, Purdue University, CSD-TR-95-008, 1995.  
Available at <http://www.cs.purdue.edu/coast/coast-library.html>

[Crosbie and Spafford, 1995b] Crosbie, M. and Spafford, E. H., "Applying Genetic Programming to Intrusion Detection", *Proceeding of AAAI Fall Symposium on Genetic Programming*, pp.1-8, Nov 1995.

[Dasgupta, 1996] Dasgupta, D., "Using Immunological Principles in Anomaly Detection", *Proceeding of the Artificial Neural Networks in Engineering (ANNIE'96)*, pp.443-448, 1996.

[Dasgupta, 1997] Dasgupta, D., "Artificial Neural Networks and Artificial Immune Systems: Similarities and Differences", *proceeding of the IEEE International Conference on Systems, Man and Cybernetics*, Orlando, October, 1997.  
Available at <http://www.mscl.memphis.edu:80/~dasgupta/publications.html>

[Dasgupta, 1998a] Dasgupta, D., "An Overview of Artificial Immune Systems and Their Applications", *Artificial Immune Systems and Their Applications*, (Ed) Dasgupta, D., Springer-Verlag, Berlin, 1998.

[Dasgupta, 1998b] Dasgupta, D., "An Artificial Immune System as a Multi-Agent Decision Support System", *proceedings of the IEEE International Conference on Systems, Man and Cybernetics (SMC)*, San Diego, October 11-14, pp.3816-3820, 1998.

[Dasgupta *et al.*, 1999a] Dasgupta, D., Cao, Y., and Yang, C., "An Immunogenetic Approach to Spectra Recognition", *Proceeding of Genetic and Evolutionary Computation Conference (GECCO' 99)*, July 13-17, pp149-155, 1999.

[Dasgupta *et al.*, 1999b] Dasgupta, D., "Immunity-Based Intrusion Detection Systems: A General Framework", *the proceedings of the 22nd National Information Systems Security Conference (NISSC)*, October 18-21, 1999.

Available at <http://www.msci.memphis.edu/~dasgupta/>

[Dasgupta *et al.*, 2000] Dasgupta, D., Kondadadi, R., and Gonzalez, F., "Evolving Classifier Rules for Intrusion Detection and Responses", *CS Technical Report No. CS-00-07*, September 2000.

[Dasgupta and Brian, 2001] Dasgupta, D., and Brian, H. "Mobile Security Agents for Network Traffic Analysis", *proceedings of DARPA Information Survivability Conference and Exposition II (DISCEX-II)*, Anaheim, California., June 12-14, 2001.

Available at <http://www.msci.memphis.edu/~dasgupta/>

[Dasgupta and Gonzalez, 2001a] Dasgupta, D., and Gonzalez, F. A., "An Intelligent Decision Support System for Intrusion Detection and Response" To appear in *Lecture Notes in Computer Science (publisher: Springer-Verlag), proceedings of International Workshop on Mathematical Methods, Models and Architectures for Computer Networks Security (MMM-ACNS)*, St. Petersburg, Russia, May 21-23, 2001.

Available at <http://www.msci.memphis.edu/~dasgupta/>

[Dasgupta and Gonzalez, 2001b] Dasgupta, D., and Gonzalez, F. A., "A New Approach to Intrusion Detection" *the 17th Annual Computer Security Applications Conference* December 10-14, 2001 New Orleans, Louisiana.

Available at <http://www.msci.memphis.edu/~dasgupta/>

[Dasgupta and Forrest, 1996] Dasgupta, D., and Forrest, S., "Novelty Detection in Time Series Data Using Ideas from Immunology", *Proceedings of the 5th International Conference on Intelligent Systems*, Reno, June, 1996.

Available at <http://www.msci.memphis.edu:80/~dasgupta/publications.html>

[Debar *et al.*, 1992] Debar, H., Becker, M., and Siboni, D., "A Neural Network Component for an Intrusion Detection System", *Proceeding of IEEE Symposium of Res. Security, Privacy*, Oakland, CA, pp.240-258, May 1992.

[Debar *et al.*, 1999] Debar, H., Dacier, M., and Wespi, A., "A Revised Taxonomy for Intrusion Detection Systems", Technical Report, rz3176, IBM Zurich Research Laboratory, 1999.

[De Castro and Von Zuben, 1999] De Castro, L. N., and Von Zuben, F. J., "Artificial Immune Systems: Part I – Basic Theory and Applications", Technical Report – RT DCA 01/99, FEEC/UNICAMP, Brazil, 1999.

[De Castro and Von Zuben, 2000a] De Castro, L. N., and Von Zuben, F. J., "The Clonal Selection Algorithm with Engineering Applications", *Proceeding of Artificial Immune System*

*Workshop, Genetic and Evolutionary Computation Conference (GECCO' 2000)*, pp36-37, 2000.

[De Castro and Von Zuben, 2000b] De Castro, L. N., and Von Zuben, F. J., "Artificial Immune Systems: Part II – A Survey of Applications", Technical Report – RT DCA 02/00, FEEC/UNICAMP, Brazil, 2000.

[De Castro and Von Zuben, 2001a] De Castro, L. N., and Von Zuben, F. J., "AiNet: an Artificial Immune Network for Data Analysis", (Book chapter in) *Data Mining: A Heuristic Approach*, (Eds) Abbass, H. A., Sarker R. A., Newton, C. S., Idea Group Publishing, 2001.

[De Castro and Von Zuben, 2001b] De Castro, L. N., and Von Zuben, F. J., "An Immunological Approach to Initialize Feedforward Neural Network Weights", *Proceeding of International Conference on Artificial Neural Networks and Genetic Algorithms (ICANNGA'1)*, 2001.  
Available at <http://www.dca.fee.unicamp.br/~lnunes/publicat.html>

[De Castro and Von Zuben, 2001c] De Castro, L. N., and Von Zuben, F. J., "A Pruning Self-Organizing Algorithm to Select Centers of Radial Basis Function Neural Networks", *Proceeding of International Conference on Artificial Neural Networks and Genetic Algorithms (ICANNGA'01)*, 2001.  
Available at <http://www.dca.fee.unicamp.br/~lnunes/publicat.html>

[De Castro and Timmis, 2002] De Castro, L. N., and Timmis, J., "Artificial Immune Systems as a Soft Computing Paradigm", *International Journal of Soft Computing*, to appear, 2002.

[De Jong, *et al.*, 1993] De Jong, K., Spears, W. M. and Gordon, D., "Using Genetic Algorithms for Concept Learning", *Machine Learning*, Vol.13, No.2/3, pp.161-188, 1993.

[Denning, 1987] Denning, D. E., "An Intrusion-Detection Model", *IEEE Transactions on Software Engineering*, Vol.SE-13, No.2, pp.222-232, February 1987.

[D'haeseleer, 1997] D'haeseleer, P., "A Distributed Approach to Anomaly Detection", *ACM Transactions on Information System Security*, 1997.  
Available at <http://www.cs.unm.edu/~patrik/>

[Dilger, 1997] Dilger, W., "Decentralized Autonomous Organization of the Intelligent Home according to the Principle of the Immune System", *Proceeding of IEEE Systems, Man and Cybernetics*, pp.351-356, 1997.

[Dti-mi, 2000] "March 2000: £15 Million to Combat Internet Hackers - Hewitt"  
Available at <http://www.dti-mi.org.uk/newweb/press.htm>

[Dougherty *et al.*, 1995] Dougherty, J., Kohavi, R. and Sahami, M., "Supervised and Unsupervised Discretization of Continuous Features", *the Proceeding of 12<sup>th</sup> Int. Conference on Machine Learning*, pp.194-202, 1995.

[Farmer *et al.*, 1986] Farmer, J. D., Packard, N. H., and Perelson, A. S., "The Immune System, Adaptation and Machine Learning", *Physica* 22D, pp.182-204, 1986.

[Fayyad and Irani, 1993] Fayyad, U. M., and Irani, K. B., "Multi-Interval Discretization of Continuous-Valued Attributes for Classification Learning", *Proceeding of The Thirteenth International Joint Conference on Artificial Intelligence*, pp.1022-1027, 1993.

[Fisher, 1936] Fisher, R., "The Use of Multiple Measurements in the Taxonomic Problems", *Annual Eugenics*, Vol. &, No. II, pp.179-188, 1936.

[Forrest *et al.*, 1993] Forrest, S., Javornik, B., Smith, R. E., and Perelson, A. S., "Using Genetic Algorithms to Explore Pattern Recognition in the Immune System", *Evolutionary Computation*, Vol. 1, No. 3, pp. 191-211, 1993.

[Forrest *et al.*, 1994] Forrest, S., Perelson, A. S., Allen, L., and Cherukuri, R., "Self-nonself Discrimination in a Computer", *Proceedings of the 1994 IEEE Symposium on Research in Security and Privacy*, Los Alamos, CA: IEEE Computer Society Press, 1994.  
Available at <http://www.cs.unm.edu/~forrest/papers.html>

[Forrest *et al.*, 1996] Forrest, S., Hofmeyr, S. A., Somayaji, A., and Longstaff, T. A., "A Sense of Self for Unix Processes", *Proceedings of 1996 IEEE Symposium on Computer Security and Privacy*, Los Alamos, CA, pp.120-128, 1996.  
Available at <http://www.cs.unm.edu/~forrest/papers.html>

[Forrest *et al.*, 1997] Forrest, S., Hofmeyr, S., and Somayaji, A., "Computer Immunology", *Communications of the ACM* Vol. 40, No. 10, pp. 88-96, 1997.  
Available at <http://www.cs.unm.edu/~forrest/papers.html>

[Forrest and Hofmeyr, 2001] S. Forrest and S.A. Hofmeyr. "Immunology as information processing." In *Design Principles for the Immune System and Other Distributed Autonomous Systems*, edited by L.A. Segel and I. Cohen. Santa Fe Institute Studies in the Sciences of Complexity. New York: Oxford University Press, pp. 361 - 387, 2001.

[Fukuda *et al.*, 1998a] Fukuda, T., Mori, K., and Tsukiyama, M., "Parallel Search for Multi-Modal Function Optimization with Diversity and Learning of Immune Algorithm", *Artificial Immune Systems and Their Applications*, (Ed) Dasgupta, D., Springer-Verlag, Berlin, pp.210 – 220, 1998.

[Fukuda *et al.*, 1998b] Fukuda, T., Mori, K., and Tsukiyama, M., "Immune-Based Management System for a Semiconductor Production Line", *Artificial Immune Systems and Their Applications*, (Ed) Dasgupta, D., Springer-Verlag, Berlin, pp.270 – 288, 1998.

[Gaspar and Collard, 1999] Gaspar, A., and Collard, P., "From Gas to Artificial Immune Systems: Improving Adaptation in Time Dependent Optimisation", *Proceeding of Congress on Evolutionary Computation (CEC)-99*, pp.1859-1866, 1999.

[Gaspar and Collard, 2000] Gaspar, A., and Collard, P. "Immune Approach to Experience Acquisition in Time Dependent Optimisation", *Proceeding of Workshop on Artificial Immune System, Genetic and Evolutionary Computation Conference (GECCO-2000)*, pp.49-50, 2000.

[Garvey and Lunt, 1991] Garvey, T. D. and Lunt, T. F., "Model Based Intrusion Detection", *Proceeding of the 14th National Computer Security Conference*, Washington, DC, pp.372-385, October 1991.

[Ghosh *et al.*, 1999] Ghosh, A. K., Schwartzbard, A., and Schatz, M., "Learning Program Behaviour Profiles for Intrusion Detection", *Proceeding of the Workshop on Intrusion Detection and Network Monitoring*, pp.51-62, 1999.

[Gu *et al.*, 2000] Gu, J. B., Lee, D. W., Sim, K. B., and Park, S. H., "An Immunity-Based Security Layer Model", *Proceeding of the Workshop on Artificial Immune System, Genetic and Evolutionary Computation Conference (GECCO-2000)*, pp.47-48, 2000.

[Habra *et al.*, 1992] Habra, N., Le Charlier, B., Mounji, A. and Mathieu, I., "ASAX: Software Architecture and Rule-base Language for Universal Audit Trail Analysis", in *Proceedings of the Second European Symposium on Research in Computer Security (ESORICS)*, Toulouse, France, November 1992.  
Available at <http://www.info.fundp.ac.be/~cri/DOCS/asax.html>

[Hajela and Yoo, 1999] Hajela, P., and Yoo, J. S., "Immune Network Modelling in Design Optimization", in *New Ideas in Optimization*, (Eds.) D. Corne, M. Dorigo, & F. Glover, McGraw Hill, London, pp.203-215, 1999.

[Hart *et al.*, 1998] Hart, E., Ross, P. and Nelson, J., "Producing Robust Schedules Via an Artificial Immune System", *Proceeding of IEEE International Conference on Evolutionary Computing*, 1998.

Available at <http://www.dai.ed.ac.uk/daiddb/people/homes/emmah/research.html>

[Hart and Ross, 1999] Hart, E. and Ross, P., "An Immune System Approach to Scheduling in Changing Environments", *Proceeding of Genetic and Evolutionary Computation Conference (GECCO'99)*, pp.1559-1566, 1999.

[Hart and Ross, 2001] Hart, E., and Ross, P., "Clustering Moving Data with a Modified Immune Algorithm", *Proceeding of Applications of Evolutionary Computing, EvoWorkshops*, pp. 394-404, 2001.

[Harmer, 2000] Harmer, P., *A Distributed Agent Architecture for a Computer Virus Immune System*, Master's Thesis, AFIT/GCE/ENG/00M-02, School of Engineering and Management, Air Force Institute of Technology, March, 2000.

[Harmer and Lamont, 2000] Harmer, P. K., and Lamont, G. B., "An Agent Based Architecture for a Computer Virus Immune System", *Proceeding of Workshop on Artificial Immune System, Genetic and Evolutionary Computation Conference (GECCO-2000)*, pp.45-46, 2000.

[Heady *et al.*, 1991] Heady, R. *et al.*, "A Prototype Implementation of a Network Level Intrusion Detection System", Technical Report CS91-11, Dept of Computer Science, University of New Mexico, Albuquerque, New Mexico 87131-1386, 1991.

[Heberlein *et al.*, 1990] Heberlein, L. T., *et al.*, "A Network Security Monitor", *Proceeding of 1990 Symposium on Research in Security and Privacy*, Oakland, CA, pp.296-304, May, 1990.

[Hightower *et al.*, 1995] Hightower, R., Forrest, S., and Perelson, A. S., "The Evolution of Emergent Organization in Immune System Gene Libraries", *Proceeding of the Sixth International Conference on Genetic Algorithms*, L.J. Eshelman (Ed.), Morgan Kaufmann, San Francisco, CA, pp.344—350, 1995.

[Hightower *et al.*, 1996] Hightower, R., Forrest, S., and Perelson, A. S., "The Baldwin Effect in the Immune System: Learning by Somatic Hypermutation", in R.K. Belew and M. Mitchell, (eds.), *Adaptive Individuals in Evolving Populations*, Addison-Wesley, Reading, MA, pp. 159-167, 1996.

[Hinton and Nowlan, 1987] Hinton, G. E., and Nowlan, S. J., "How Learning Can Guide Evolution", *Complex Systems*, Vol.1, pp.495-502, 1987.

[Hofmeyr *et al.*, 1998] Hofmeyr, S. A., Somayaji, A., and Forrest, S., "Intrusion Detection System Using Sequences of System Calls", *Journal of Computer Security*, Vol. 6, pp. 151-180, 1998.

Available at [http://www.cs.unm.edu/~forrest/isa\\_papers.htm](http://www.cs.unm.edu/~forrest/isa_papers.htm)

[Hofmeyr, 1999] Hofmeyr, S., *An Immunological Model of Distributed Detection and Its Application to Computer Security*, PhD Thesis, Dept of Computer Science, University of New Mexico, 1999.

[Hofmeyr and Forrest, 2000] Hofmeyr, S. A., and Forrest, S., "Architecture for an Artificial Immune System", *Evolutionary Computation*, Vol. 7, No. 1, Morgan-Kaufmann, San Francisco, CA, pp. 1289-1296, 2000.

Available at <http://www.cs.unm.edu/~immsec/papers.htm>

[Holland, 1975] Holland, J. H., *Adaptation in Natural and Artificial Systems*, University of Michigan Press (Second Edition, MIT Press, 1992), 1974.

[Hunt and Cooke, 1996] Hunt, J., and Cooke, D., "Learning using an Artificial Immune System", *Journal of Network and Computer Applications: Special Issue on Intelligent Systems Design and Application*, Vol. 19, pp.189-212, 1996.

[Hunt *et al.*, 1998] Hunt, J., Timmis, J., Cooke, D., Neal, M., and King, C., "Jisys:Development of Artificial Immune Systems for Real World Applications", *Artificial Immune Systems and Their Applications*, (Ed) Dasgupta, D., Springer-Verlag, Berlin, pp.157-186, 1998.

[Ilgun *et al.*, 1995] Ilgun, K., Kemmerer, R. A., and Porras, P. A., "State Transition Analysis: Rule-Based Intrusion Detection Approach", *IEEE Transactions on Software Engineering*, Vol. 21, No. 3, pp.181-199, March 1995.

[Ishida, 1996a] Ishida, Y., "An Immune Network Approach to Sensor-Based Diagnosis by Self-Organization", *Complex Systems*, Vol. 10, No. 1, pp. 73-90, 1996.

[Ishida, 1996b] Ishida, Y., "Agent-Based Architecture of Selection Principle in the Immune System", *the Proceeding of the IMBS' 96*, 1996.

Available at <http://www.sys.tutkie.tut.ac.jp/~ishida/IMBS96proc.html>

[Ishida, 1997] Ishida, Y., "The Immune System as a Prototype of Autonomous Decentralized Systems: An Overview", *Proc. of International Symposium on Autonomous Decentralized Systems (ISADS'97)*, Berlin, April 9 - 11, pp. 85-92, 1997.

[Ishiguro *et al.*, 1997] Ishiguro, A., Watanabe, Y., and Konodo, T., "A Robot with a Decentralised Consensus-Making Mechanism Based on the Immune System", *Proceeding of ISADS'97*, pp.231-237, 1997.

[Jackson *et al.*, 1991] Jackson, K., DuBois, D. and Stallings, C., "An Expert System Application for Detecting Network Intrusion Detection", *Proceeding of the 14th National Computer Security Conference*, pp.215-225, Oct. 1991.

[Jackson *et al.*, 1994] Jackson, K., DuBois, D. and Stallings, C., "The NIDES Statistical Component Description and Justification", Technical Report, Computer Science Laboratory, SRI International, Menlo Park, CA, March, 1994.

Available at <http://www.csl.sri.com/nides/index.html>

[Javitz and Valdez, 1991] Javitz, H. S. and Valdez, A., "The SRI IDES Statistical Anomaly Detector", *Proceeding of IEEE Symposium on Research in Security and Privacy*, Oakland, CA, May 1991, pp.316-376. Available at <http://www.csl.sri.com/nides/index.html>

[Jerne, 1974] Jerne, N. K., "Towards a Network Theory of the Immune System", *Annual Immunology (Inst. Pasteur)*, Vol.125, No.C, pp.373-389, 1974.

[Kanerva, 1988] Kanerva, P., *Sparse Distributed Memory*, MIT Press, Cambridge, M, 1988.

[Kephart, 1994] Kephart, J. O., "A Biologically Inspired Immune System for Computers", *Artificial Life IV, Proceeding of the Fourth International Workshop on the Synthesis and Simulation of Living Systems*, MIT Press, R. A. Brooks and P. Maes Ed, pp.130-139, 1994

- [Kephart, *et al.*, 1997] Kephart, J. O., Sorkin, G. B., Arnold, W. C., Chess, D. M., Tesauro, G. J., and White, S. R., "Biologically Inspired Defences against Computer Viruses", *Machine Learning and Data Mining: Method and Applications*, (Ed) Michalski, R. S., Bratko, I., and Kubat, M., John-Wiley & Son, pp.313-334, 1997.
- [Kephart, *et al.*, 1998] Kephart, J. O., Sorkin, G. B., Swimmer, M., White, S. R., "Blueprint for a Computer Immune System", *Artificial Immune Systems and Their Applications*, (Ed) Dasgupta, D., Springer-Verlag, Berlin, pp.241-261, 1998.
- [Kim and Bentley, 1999a] Kim, J. and Bentley, P., "The Human Immune System and Network Intrusion Detection", *7th European Congress on Intelligent Techniques and Soft Computing (EUFIT '99)*, Aachen, Germany, September 13- 19, 1999.
- [Kim and Bentley, 1999b] Kim, J. and Bentley, P., "The Artificial Immune Model for Network Intrusion Detection", *7th European Congress on Intelligent Techniques and Soft Computing (EUFIT'99)*, Aachen, Germany, September 13- 19, 1999.
- [Kim and Bentley, 1999c] Kim, J. and Bentley, P. J., "Negative Selection and Niching by an Artificial Immune System for Network Intrusion Detection", *A late-breaking paper, pp.149-158, Genetic and Evolutionary Computation Conference (GECCO '99), Orlando, Florida, July 13-17, 1999.*
- [Kim and Bentley, 2001a] Kim, J. and Bentley, P. J., "Evaluating Negative Selection in an Artificial Immune System for Network Intrusion Detection", *Genetic and Evolutionary Computation Conference 2001 (GECCO-2001)*, San Francisco, pp.1330 - 1337, July 7-11, 2001.
- [Kim and Bentley, 2001b] Kim, J. and Bentley, P. J., "Towards an Artificial Immune System for Network Intrusion Detection: An Investigation of Clonal Selection with a Negative Selection Operator", *the Congress on Evolutionary Computation (CEC-2001)*, Seoul, Korea, pp.1244-1252, May 27-30, 2001.
- [Kim and Bentley, 2002a] Kim, J. and Bentley, P. J. "Towards an Artificial Immune System for Network Intrusion Detection: An Investigation of Dynamic Clonal Selection", *the Congress on Evolutionary Computation (CEC-2002)*, Honolulu, pp.1015 - 1020, May 12-17, 2002.
- [Kim, and Bentley, 2000b] Kim, J. and Bentley, P. J., "Immune Memory in the Dynamic Clonal Selection Algorithm", to appear in *the Proceeding of the first International Conference on Artificial Immune Systems (ICARIS)*, September 9-11, 2002.
- [Kim, and Bentley, 2000c] Kim, J. and Bentley, P. J., "A Model of Gene Library Evolution in the Dynamic Clonal Selection Algorithm", to appear in *the Proceeding of the first International Conference on Artificial Immune Systems (ICARIS)*, September 9-11, 2002.
- [Ko *et al.*, 1993] Ko, C., *et al.*, "Analysis of an Algorithm for Distributed Recognition and Accountability", *Proceeding of ACM Conference of Computer and Communication Security*, Fairfax, MD, Nov 3-5, 1993.  
Available at <http://seclab.cs.ucdavis.edu/~stanifor/>
- [Ko, 1996] Ko, C., *Execution Monitoring of Security-Critical Programs in a Distributed System: A Specification-Based Approach*, Department of Computer Science, UC Davis, Ph.D. Thesis, August 1996.
- [KrishnaKumar and Neidhoefer, 1998] KrishnaKumar, K., and Neidhoefer, J., "Immunized Adaptive Critic for an Autonomous Aircraft Control Application", *Artificial Immune Systems and Their Applications*, (Ed) Dasgupta, D., Springer-Verlag, Berlin, pp.221-241, 1998.



[Kumar, 1995] Kumar, S., *Classification and Detection of Computer Intrusions*, PhD Thesis, Department of Computer Science, Purdue University, August 1995.

[Kumar and Bentley, 2000] Kumar, S., and Bentley, P., "Computational Embryology: Past, Present and Future" *Theory and Application of Evolutionary Computation: Recent Trends*, Ghosh and Tsutsui (Eds), Springer Verlag (UK), 2000.

[Lamont, *et al.*, 1999] Lamont, G. B., Marmelstein, R. E., and Van Veldhuizen, D. A., "A Distributed Architecture for a Self-Adaptive Computer Virus Immune System", *New Ideas in Optimization, Advanced Topics in Computer Science Series*, McGraw-Hill, London, pp, 167-183, 1999.

[Lane and Brodley, 1997] Lane, T and Brodley, C. E., "Sequence Matching and Learning in Anomaly Detection for Computer Security", *Proceeding of AAAI-97 Workshop on AI Approaches to Fraud Detection and Risk Management*, 1997.  
Available at <http://www.cs.purdue.edu/coast/coast-library.html>

[Lane and Brodley, 1998] Lane, T. and Brodley, C. E., "Approaches to online learning and concept drift for user identification in computer security", *Proceeding of The Fourth International Conference on Knowledge Discovery and Data Mining*, New York, pp 259-263, 1998.  
Available at <http://mow.ecn.purdue.edu/~brodley/my-papers/publications.html>

[Lane and Brodley, 1999] Lane, T. and Brodley, C. E., "Temporal sequence learning and data reduction for anomaly detection", *ACM Transactions on Computer Security*, Vol. 2, No. 3, pp 295-331, August 1999.

[Lane, 1999] Lane, T., "Hidden Markov Models for Human/Computer Interface Modelling", *Proceeding of IJCAI-99 Workshop on Learning About Users*, pp 35-44, 1999.

[Lane and Brodley, 2000] Lane, T. and Brodley, C. E., "Data Reduction Techniques for Instance-Based Learning from Human/Computer Interface Data", *Proceedings of the Seventeenth International Conference on Machine Learning*, pp 519-526, 2000.

[Lee, 1999] Lee, W., *A Data Mining Framework for Constructing Features and Models for Intrusion Detection Systems*, PhD Thesis, Dept of Computer Science, Columbia University, 1999.

[Lee, *et al.*, 1999a] Lee, W., Park, C., and Stolfo, S. J., "Towards Automatic Intrusion Detection Using NFR", to appear in the *Proceeding of 1st USENIX Workshop on Intrusion Detection and Network Monitoring*, 1999.  
Available at <http://www.cs.columbia.edu/~sal/JAM/PROJECT/>

[Lee, *et al.*, 1999b] Lee, D-W., Jun, H-B., and Sim, K-B., "Artificial Immune System for Realization of Cooperative Strategies and Group Behaviour in Collective Mobile Robots", *Proceeding of the 4<sup>th</sup> International Symposium On Artificial Life and Robotics (AROB 4<sup>th</sup> '99)*, pp.232-235, 1999.

[Li, *et al.*, 2000] Li, Y., Wu, N., Jajosia, S., and Sean Wang, X., "Enhancing Profiles for Anomaly Detection Using Time Granularities", *Proc. 1<sup>st</sup> ACM workshop on Intrusion Detection Systems*, Athens, Greece, Nov. 2000.  
Available at <http://ise.gmu.edu/~nwu/MyWeb/Paper/paper.html>

[Libicki, 1997] Libicki, M., "Postcards from the Immune System", *Defending Cyberspace and Other Metaphors, Essay 5*, pp.75-96, NDU Press, 1997.

[Liepins and Vaccaro, 1989] Liepins, G. E., and Vaccaro, H. S., "Anomaly Detection: Purpose and Framework", *Proceedings of the 12th National Computer Security Conference*, pp.495-504, 1989.

[Life, 1993] *Life, Death and the Immune System, Scientific American: A Special Issue*, September, 1993.

[Lunt, 1988] Lunt, T. F., "Automated Audit Trail Analysis and Intrusion Detection: A Survey", *Proceeding of 11th National Computer Security Conference*, Baltimore, MD, Oct 1988.  
Available at <http://www.csl.sri.com/nides/index5.html>

[Lunt, 1993] Lunt, T. F., "Detecting Intruders in Computer Systems", *Proceeding of 1993 Conference on Auditing and Computer Technology*, 1993.  
Available at <http://www.csl.sri.com/nides/index.html>

[Lunt *et al.*, 1992] Lunt, T. F., *et al.*, "A Real-time Intrusion Detection Expert System (IDES)", Technical Report SRI-CSL-92-05, Computer Science Laboratory, SRI International, Menlo Park, CA, April 1992.

[Lunt and Jagannathan, 1988] Lunt, T. F. and Jagannathan, R., "A Prototype Real-Time Intrusion Detection", *Proceeding of 1988 IEEE Symposium on Security and Privacy*, Oakland, CA, pp.59-66, April 1988.

[Mackay, 1993] Mackay, C. R., "Immunological Memory", *Advanced Immunology*, vol. 53, pp.217-265, 1993.

[Manderick, 1994] Manderick, B., "The Importance of Selectionist Systems for Congition", *Computing with Biological Metaphors*, (Ed.) Ray Paton, Chapman & Hall, pp.373-392, 1994.

[Mannila *et al.*, 1997] Mannila, H., Toivonen, H., and Verkamo, A. I., "Discovery of Frequent Episodes in Event Sequences", *Data Mining and Knowledge Discovery*, Vol.1, pp.259-289, 1997.

[Matzinger, 1994] Matzinger, P., "Immunological Memories Are Made Of This?", *Nature*, Vol. 369, No. 6382, pp.605-606, 1994.

[McCoy and Devarajan, 1997] McCoy, D. F., and Devarajan, V., "Artificial Immune Systems and Aerial Image Segmentation", *Proceeding of IEEE Systems, Man and Cybernetics*, pp.867-873, 1997.

[Me, 1998] Me, L., "GASSATA, a Genetic Algorithms as an Alternative Tool for Security Audit Trails Analysis", *Proceeding of the Recent Advances in Intrusion Detection (RAID'98)*.  
Available at <http://www.raid-symposium.org/raid98>

[Michaud *et al.*, 2001] Michaud, S. R., *et al.*, "Protein Structure Prediction with EA Immunological Computation", *Proceeding of Genetic and Evolutionary Computation Conference (GECCO'2001)*, July 7-11, pp.1367-1874, 2001.

[Mitchell, 1997] Mitchell, T., *Machine Learning*, McGraw-Hill, 1997.

[Mitsumoto *et al.*, 1997] Mitsumoto, N., Fukuda, T., Arai, F., and Ishihara, H., "Control of Distributed Robotic System based on the Biologically Inspired Immunological Architecture", *Proceeding of IEEE International Conference on Robotics and Automation*, pp.3551-3556, 1997.

- [Mori *et al.*, 1998] Mori, K., Tsukiyama, M., and Fukuda, T., "Adaptive Scheduling System Inspired by Immune System", *Proceeding of IEEE Systems, Man and Cybernetics*, pp.3833-3837, 1998.
- [Mounji *et al.*, 1995] Mounji, A., Le Charlier, B., Zampunris, D., and Habra, N., "Distributed Audit Trail Analysis", *Proceeding of the ISOC '95 Symposium on Network and Distributed Systems Security*, San Diego, California, February 1995.
- [Mykerjee *et al.*, 1994] Mykerjee, B., Heberlein, L. T. and Levitt, K. N., "Network Intrusion Detection", *IEEE Network*, Vol.8, No.3, pp.26-41, 1994.
- [Narasimhan *et al.*, 1999] Narasimhan, P., Kihlstron, K. P., Moser, L. E., and Melliar-Smith, P. M., "Providing Support for Survivable CORBA Application with the Immune System", *Proceeding of 19<sup>th</sup> IEEE International Conference on Distributed Computing Systems*, pp.507-516, 1999.
- [Neri, 2000] Neri, F., "Comparing Local Search with respect to Genetic Evolution to Detect Intrusion in Computer Networks", *Proceeding of 2000 Congress on Evolutionary Computation (CEC'2000)*, pp.238--243, 2000.
- [Nikolaev *et al.*, 1999] Nikolaev, N., Iba, H., and Slavov, V., "Inductive Genetic Programming with Immune Network Dynamics", *Advances in Genetic Programming 3*, MIT Press, Chapter 15, pp.335-376, 1999.
- [Nolfi and Floreano, 1999] Nolfi, S., and Florano, F., "Learning and Evolution", *Autonomous Robots*, Vol. 7, No.1, 1999.
- [Obaidat and Macchiarolo, 1993] Obaidat, M. S., and Macchiarolo, D. T., "An On-Line Neural Network System for Computer Access Security", *IEEE Transactions on Industrial Electronics*, Vol.40, No.2, April, pp.235-242, 1993.
- [Okamoto and Ishida, 1999] Okamoto, T., and Ishida, Y., "A Distributed Approach to Computer Virus Detection and Neutralization by Autonomous and Heterogeneous Agents", *the Proceeding of the ISADS'99*, pp.328-331.
- [Oprea, 1999] Oprea, M., *Antibody Repertoires and Pathogen Recognition: The Role of Germline Diversity and Somatic Hypermutation*, PhD Thesis, Department of Computer Science, The University of New Mexico, 1999.
- [Oprea and Forrest, 1998] Oprea, M., and Forrest, S., "Simulated Evolution of Antibody Libraries Under Pathogen Selection", *Proceeding of IEEE International Conference on Systems, Man and Cybernetics*, 1998.  
Available at [http://www.cs.unm.edu/~forrest/ism\\_papers.htm](http://www.cs.unm.edu/~forrest/ism_papers.htm)
- [Oprea and Forrest, 1999] Oprea, M. and Forrest, S., "How the Immune System Generates Diversity: Pathogen Space Coverage with Random and Evolved Antibody Libraries.", *Proceeding of Genetic and Evolutionary Computation Conference (GECCO)*, July, 1999.  
Available at [http://www.cs.unm.edu/~forrest/ism\\_papers.htm](http://www.cs.unm.edu/~forrest/ism_papers.htm)
- [Paller, 1998] *Selecting the Right Intrusion Detection Tools and Active Auditing Tools*, course book, Alan Paller (Ed), SNAS Institute, Oct 1998.
- [Paul, 1991] Paul, W. E., (Ed.), "Immunology: Recognition and Response", *Readings from Scientific American*, 1991.
- [Paul, 1993] Paul, W. E., "The Immune System: An Introduction", *Fundamental Immunology* 3<sup>rd</sup> Ed., W. E. Paul (Ed), Raven Press Ltd, 1993.

- [Paxson, 1998] Paxson, V., "Bro:A System for Detecting Network Intruders in Real-Time", *Proceeding of 7th USENIX Security Symposium*, San Antonio, TX, January, 1998.
- [Percus *et al.*, 1993] Percus, J. K., Percus, O. E., and Perelson, A. S., "Predicting the Size of the T-cell Receptor and Antibody Combining Region From consideration of Efficient Self-Nonself Discrimination", *Proceeding of the National Academy*, Vol.90, pp.1691-1695, March 1993.
- [Perelson *et al.*, 1996] Perelson, A. S., Hightower, R., and Forrest, S., "Evolution and Somatic Learning in V-Region Genes", *Research in Immunology*, Vol. 147, pp. 202-208, 1996.
- [Playfair, 1996] Playfair, J. H. L., *Immunology at Glance*, 6<sup>th</sup> Ed., Blackwell Science, 1996.
- [Porras, 1992] Porras, P. A., *STAT: A State Transition Analysis Tool for Intrusion Detection*, MSc Thesis, Department of Computer Science, University of California Santa Barbara, 1992.
- [Porras and Neumann, 1998] Porras, P. A. and Neumann, P. G., "EMERALD: Event Monitoring Enabling Responses to Anomalous Live Disturbances", *Proceeding of 20th National Information System Security Conference*, 1998.  
Available at <http://www.csl.sri.com/emerald/downloads.html>
- [Porras and Valdes, 1998] Porras, P. A. and Valdes, A., "Live Traffic Analysis of TCP/IP Gateways", *Proceeding of ISOC Symposium of Network and Distributed System Security*, 1998.  
Available at <http://www.csl.sri.com/emerald/downloads.html>
- [Potter and De Jong, 1998] Potter, M. A. and De Jong, K.A., "The Coevolution of Antibodies for Concept Learning", *Proceeding of the fifth Intl. Conference on Parallel Problem Solving From Nature*, pp.530-539, 1998.
- [Ranum *et al.*, 1997] Ranum, M. J. *et al.*, "Implementing a Generalized Tool for Network Monitoring", *Proceedings of the 11<sup>th</sup> Systems Administration Conference (LISA '97)*, San Diego, California, USA, October 26-31, 1997.  
Available at <http://www.nfr.net/forum/publications/LISA-97.htm>
- [Roitt *et al.*, 1998] Roitt, I., Brostoff, J., and Male, D., *Immunology*, Fifth Ed., Mosby International Ltd., 1998.
- [silicon, 2000] "Hackers hit high-profile web sites", [www.silicon.com](http://www.silicon.com), 10th of Feb, 2000.
- [Smith *et al.*, 1993] Smith, R. E., Forrest, S., and Perelson, A. S., "Searching for Diverse, Cooperative Populations with Genetic Algorithms," *Evolutionary Computation*, Vol. 1, No. 2, pp. 127-149, 1993.
- [Smith *et al.*, 1996] Smith, D. J., Forrest, S., and Perelson, A. S., "Immunological Memory is Associative", *Workshop Notes, Workshop 4: Immunity Based Systems, Int. Conference of Multiagent Systems*, Kyoto, Japan, pp.62-70, 1996.
- [Smith *et al.*, 1997] Smith, D. J., Forrest, S., Hightower, R. R., and Perelson, A. S., "Deriving Shape-Space Parameters from Immunological Data for a Model of Cross-Reactive Memory", *Journal of Theoretical Biology* Vol.189, pp.141-150, 1997.
- [Smith *et al.*, 1978] Smith, D. J., Forrest, S., Ackley, D. H., and Perelson, A. S., "Modeling the effect of prior infection on vaccine efficacy." *Artificial Immune systems and their Applications*, (Ed) Dasgupta, D, Springer-Verlag, Berlin Germany, pp. 144-153, 1998.

[Smith *et al.*, 1999] Smith, D. J., Forrest, S., Ackley, D. H., and Perelson, A. S., "Variable Efficacy of Repeated Annual Influenza Vaccination" *Proceedings of the National Academy of Sciences*, Vol. 96, pp. 14001-14006, 1999.  
Available at [http://www.cs.unm.edu/~forrest/ism\\_papers.htm](http://www.cs.unm.edu/~forrest/ism_papers.htm)

[Snapp *et al.*, 1991] Snapp, S., *et al.*, "DIDS(Distributed Intrusion Detection System)-Motivation, Architecture, and An Early Prototype", *Proceeding of 14th National Computer Security Conference, Washington, D. C.*, pp.167-176, Oct., 1991.

[Sompayrac, 1999] Sompayrac, L., *How the Immune System Works*, Blackwell Science Inc., 1999.

[Somayaji *et al.*, 1997] Somayaji, A., Hofmeyr, S. and Forrest, S., "Principles of a computer immune system", *Proceeding of New Security Paradigms Workshop, Langdale, Cumbria*, pp.75-82, 1997.

[Somayaji and Forrest, 2000] Somayaji, A., and Forrest, S., "Automated Response Using System-Call Delays." *Proceeding of Usenix*, 2000.  
Available at [http://www.cs.unm.edu/~forrest/isa\\_papers.htm](http://www.cs.unm.edu/~forrest/isa_papers.htm)

[Sompayrac, 1999] Sompayrac, L., *How the Immune System Works*, Blackwell Science, 1999.

[Spafford, 1994] Spafford, E. H., "Computer Viruses as Artificial Life", *Journal Of Artificial Life*, Vol. 1, No. 3, pp. 249-pp.265, 1994.

[Staniford-Chen *et al.*, 1996] Staniford-Chen, *et al.*, "GrIDS -- A Graph-Based Intrusion Detection System for Large Networks", *Proceeding of the 19th National Information Systems Security Conference*, 1996.  
Available at <http://seclab.cs.ucdavis.edu/papers.html>

[Stillerman *et al.*, 1999] Stillerman, M., Marceau, C., and Stillman, M., "Intrusion Detection for Distributed Applications", *Communications of the ACM*, 42 (7) pp.62-69, July 1999

[Sundaram, 1996] Sundaram, A., "An Introduction to Intrusion Detection", *The ACM Student Magazine*, Vol.2, No.4, April 1996.  
Available at <http://www.acm.org/crossroads/xrds2-4/xrds2-4.html>

[Suzuki and Yamamoto, 2000] Suzuki, J., and Yamamoto, Y., "iNet: An Extensible Framework for Simulating Immune Network", In *Proceedings of The IEEE International Conference on Systems, Man, and Cybernetics 2000 (SMC'00), Special Track on Artificial Immune Systems and Their Applications*, Nashville, U.S.A., October 2000.  
Available at <http://www.ics.uci.edu/~jsuzuki/pub/>

[Suzuki and Yamamoto, 2001] Suzuki, J., and Yamamoto, Y., "Biologically-inspired Autonomous Adaptability in a Communication Endsytstem: An Approach Using an Artificial Immune Network", *IEICE Transactions on Information & System*, 2001.  
Available at <http://www.ics.uci.edu/~jsuzuki/pub/>

[Tanchot *et al.*, 2000] Tanchot, C., Veiga Fernandes, H., and Rocha, B., "The orgnisation of mature T cell pools", *Phil. Transactions on Royal Society, London*, Vol. B., No. 355, pp.323-328, 2000.

[Teng *et al.*, 1990] Teng, H., Chen, K., and Lu, S., "Adaptive Real-Time Anomaly Detection Using Inductively Generated Sequential Patterns", *Proceeding of the 1990 Symposium on Security and Privacy*, Oakland, CA, May 7-9, pp.278-284, 1990.

- [Timmis, 2001] Timmis, J., *Artificial Immune Systems: a Novel Data Analysis Technique Inspired by the Immune Network Theory*, PhD Thesis, Department of Computer Science, University of Wales, Aberystwyth, 2001.
- [Tizard, 1995] Tizard, I. R., *Immunology: Introduction*, 4<sup>th</sup> Ed, Saunders College Publishing, 1995.
- [Toma, *et al.*, 1999] Toma, N., Endo, S., and Yamada, K., "Immune Algorithm with Immune Network and MHC for Adaptive Problem Solving", *Proceeding of IEEE Systems, Man and Cybernetics*, Vol.3, pp.922-927, 1999.
- [Treleaven and Goonatilake, 1995] Treleaven, P., and Goonatilake, S., *Intelligent Systems for Finance and Business*, John Wiley & Sons, Inc., 1995.
- [Varela *et al.*, 1988] Varela, F., Coutinho, A., Dupire, B., and Vaz, N., "Cognitive Networks: Immune, Neural and Otherwise", *Theoretical Immunology: Past Two, SFI Series on the Science of Complexity, Vol. 2, (Ed. A. Perelson)*, Addison-Wesley, Reading, MA, pp.359-75, 1988.
- [Vertosick and Kelly, 1989] Vertosick, F. T., and Kelly, R. H., "Immune Network Theory: a Role for Parallel Distributed Processing?", *Immunology*, Vol.66, pp.1-7, 1989.
- [Vigna and Kemmerer, 1998] Vigna, G and Kemmerer, R. A., "NetSTAT: A network-based intrusion detection approach," *Proceedings of the 14th Annual Computer Security Applications Conference*, Scottsdale, Arizona, December 1998.  
Available at <http://www.cs.ucsb.edu/~kemm/netstat.html/documents.html>
- [Watanabe *et al.*, 1998a] Watanabe, Y., Ishiguro, A., and Uchikawa, Y., "Decentralised Behaviour Arbitration Mechanism for Autonomous Mobile Robot Using Immune Network", *Artificial Immune Systems and Their Applications*, (Ed) Dasgupta, D., Springer-Verlag, Berlin, pp.187-209, 1998.
- [Watanabe *et al.*, 1998b] Watanabe, Y., Ishiguro, A., Shirai, Y., and Uchikawa, Y., "Emergent Construction of Behavior Arbitration Mechanism Based on the Immune System", *Proceeding of ICEC'98*, pp.481-486, 1998.
- [Watanabe and Ishida, 2002] Watanabe, Y., and Ishida, Y., "Immunity-Based Diagnosis in Information Gathering Mobile Agent System", *Proceeding of AROB 7th '02*, Vol.2, pp.580-583, 2002.
- [Warrender *et al.*, 1999] Warrender, C., Forrest, S., and Pearlmutter, B., "Detecting intrusions using system calls: Alternative data models", *Proceeding of 1999 IEEE Symposium on security and Privacy*, 1999.  
Available at [http://www.cs.unm.edu/~forrest/isa\\_papers.htm](http://www.cs.unm.edu/~forrest/isa_papers.htm)
- [White *et al.*, 1996] White, G., B., Pooch, U., and Fisch, E. A., "Cooperating Security Managers: A Peer-Based Intrusion Detection System", *IEEE Network*, Vol.10, No.1, pp.20-23, 1996.
- [White *et al.*, 2000] White, S. R., Swimmer, M., Pring, E. J., Arnold, W. C., Chess, D. M., Morar, J. F., "Anatomy of a Commercial-Grade Immune System", 2000.  
Available at <http://www.research.ibm.com/antivirus/SciPapers.htm>
- [Williams *et al.*, 2001] Williams, P. D., Anchor, K. P., Bebo, J. L., Gunsch, G. H., and Lamont, G. D., "CDIS: Towards a Computer Immune System for Detecting Network Intrusions", *Proceedings of the Fourth International Symposium on Recent Advances in Intrusion Detection, RAID 2001, in Lecture Notes in Computer Science, LNCS 2212*, Springer-Verlag, pp.117-133, 2001.

Available at <http://www.raid-symposium.org/Raid2001/program.html>

[Witten and Frank, 2000] Witten, I.H. and Frank, E. *Data Mining: Practical Machine Learning Tools and Techniques with Java Implementations*, Morgan Kaufmann Publishers, 2000.

[Yates and Callard, 2001] Yates, A. and Callard, R., “Cell Death and the Maintenance of Immunological Memory”, *Discrete and Continuous Dynamical Systems B* **1**, pp.43-60, 2001.