Bibliografia

- [1] A. Avizienis, J.-C. Laprie, B. Randell, and C. Landwehr. Basic concepts and taxonomy of dependable and secure computing. *IEEE Transactions on Dependable and Secure Computing*, 1(1):11 33, 2004.
- [2] CENELEC. EN 50126 Railway applications The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS), 1999.
- [3] D.M. Nicol, W.H. Sanders, and K.S. Trivedi. Model-based evaluation: from dependability to security. *Dependable and Secure Computing*, *IEEE Transactions on*, 1(1):48 65, 2004.
- [4] R.M. Smith, K.S. Trivedi, and A.V. Ramesh. Performability analysis: Measures, an algorithm, and a case study. *IEEE Transactions on Computers*, 37:406–417, 1988.
- [5] K. S. Trivedi. Probability and Statistics with Reliability, Queueing and Computer Science Applications. John Wiley & Sons, New York, second edition, 2002.
- [6] BIPM, IEC, IFCC, ILAC, ISO, IUPAC, IUPAP, and OIML. ISO International Vocabulary of Basic and General Terms in Metrology (VIM), third edition, 2004.
- [7] BIPM, IEC, IFCC, ILAC, ISO, IUPAC, IUPAP, and OIML. Guide to the expression of uncertainty in measurement, first edition, 2008.
- [8] BIPM, IEC, IFCC, ILAC, ISO, IUPAC, IUPAP, and OIML. Guide to the expression of uncertainty in measurement, supplement 1 Propagation of distributions using a Monte Carlo method, first edition, 2008.
- [9] Douglas C. Montgomery. *Design and Analysis of Experiments*. J. Wiley & Sons, fifth edition edition, 2001.

[10] W.E. Vesely, F.F. Goldberg, N.H. Roberts, and D.F. Haasl. Fault Tree Handbook (NUREG-0492). Technical report, Division of Systems and Reliability Research, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, 1981.

- [11] IEC 60812 Analysis techniques for system reliability Procedure for failure mode and effects analysis (FMEA). International Standard, January 2006. Second Edition.
- [12] Winfrid G. Schneeweiss. The Fault Tree Method. LiLoLe-Verlag GmbH, Hagen, 1999.
- [13] Martin J. Erickson. Introduction to combinatorics. Discrete Mathematics and Optimization. Wiley-Interscience, 1996.
- [14] Michael Stamatelatos, William Vesely, Joanne Dugan, Joseph Fragola, Joseph Minarick III, and Jan Railsback. Fault tree handbook with aerospace applications. Technical report, NASA Office of Safety and Mission Assurance, August 2002.
- [15] R. G. Bennetts. Analysis of reliability block diagrams by boolean techniques. *IEEE Transactions on Reliability*, R-31(2):159–166, June 1982.
- [16] Xinyu Zang, Hairong Sun, and Kishor S. Trivedi. A bdd-based algorithm for reliability graph analysis. Technical report, 2000.
- [17] A. Satyanarayana and Mark K. Chang. Network reliability and the factoring theorem. *Networks*, 13(1):107–120, 1983.
- [18] K. B. Misra. An algorithm for the reliability evaluation of redundant networks. *IEEE Transactions on Reliability*, R-19(4):146 –151, 1970.
- [19] S. Soh and S. Rai. CAREL: Computer Aided Reliability Evaluator for Distributed Computing Networks. *IEEE Transactions on Parallel and Distributed Systems*, 2:199–213, 1991.
- [20] A. Satyanarayana and A. Prabhakar. New topological formula and rapid algorithm for reliability analysis of complex networks. *Reliability*, *IEEE Transactions on*, R-27(2):82–100, June 1978.
- [21] Clifton A. Ericsson II. Fault Tree Analysis A History. In *Proceedings* of the 17th International System Safety Conference (ISSC 1999), 1999.
- [22] IEC 61025 Reliability of systems, equipment and components. Guide to fault tree analysis, 1990.

- [23] EN 61025 Fault tree analysis (FTA), 2007.
- [24] SAE ARP4761 Guidelines and Methods for Conducting the Safety Assessment Process on Civil Airborne Systems and Equipment, 1996.
- [25] Johanne Bechta Dugan. Sofware system analysis using fault trees. In Michael R. Lyu, editor, *Handbook of Software Reliability Engineering*, chapter 15, page 615. IEEE Computer Society Press / McGraw-Hill, 1996.
- [26] S. Rai, M. Veeraraghavan, and K. S. Trivedi. A survey of efficient reliability computation using disjoint products approach. *Networks*, 1995.
- [27] Winfrid G. Schneeweiss. The Modeling World of Reliability / Safety Engineering. LiLoLe-Verlag GmbH, Hagen, 2005.
- [28] Antoine Rauzy. New algorithms for fault trees analysis. *Reliability Engineering & System Safety*, 40(3):203 211, 1993.
- [29] Martin L. Shooman. Reliability of Computer Systems and Networks: Fault Tolerance, Analysis, and Design. Wiley-Interscience, 2002.
- [30] E. Parzen. Stochastic Processes. Holden-Day, San Francisco CA, 1962.
- [31] J. Medhi. Stochastic Processes. Wiley Eastern Limited, New Delhy India, 1994.
- [32] W. J. Stewart. Introduction to the Numerical Solution of Markov Chains. Princeton University Press, Princeton - NJ, 1994.
- [33] G. Bolch, S. Greiner, H. De Meer, and K. S. Trivedi. Queueing Networks and Markov Chains. Wiley, New York, 1998.
- [34] W. (ed.) Grassman. Computational Probability. Kluwer Academic Publishers, Amsterdam, 2000.
- [35] C. A. Petri. Kommunikation mit Automaten. PhD thesis, Schriften des Institutes für Instrumentelle Mathematik, Bonn, 1962. Also, english translation, Communication with Automata. New York: Griffiss Air Force Base. Tech. Rep. RADC-TR-65-377, vol. 1, Suppl. 1, 1966.
- [36] S. Natkin. Les Réseaux de Petri Stochastiques et leur Application a l'Evaluation des Systèmes Informatiques. PhD thesis, These de Docteur Ingegneur, CNAM, Paris, 1980.

[37] M. K. Molloy. On the Integration of Delay and Throughput Measures in Distributed Processing Models. PhD thesis, UCLA, Los Angeles, CA, 1981.

- [38] M. K. Molloy. Performance analysis using stochastic Petri nets. *IEEE Transactions on Computers*, 31(9):913–917, 1982.
- [39] M. Ajmone Marsan. Stochastic Petri nets: An elementary introduction. In G. Rozenberg, editor, Advances in Petri Nets 1989, volume 424 of LNCS, pages 1–29. Springer Verlag, 1990.
- [40] BCS2001. British computer society 2001. Technical report, http://www.bcs.org.uk, 2001.
- [41] M. Ajmone Marsan, G. Balbo, and G. Conte. A class of generalized stochastic Petri nets for the performance evaluation of multiprocessor systems. *ACM Transactions on Computer Systems*, 2(2):93–122, 1984.
- [42] W. M. Zuberek. Timed Petri nets, definitions, properties, and applications. *Microelectronics and Reliability*, 31(4):627–644, 1991.
- [43] G. Ciardo, A. Blakemore, P. F. Chimento, J. K. Muppala, and K. S. Trivedi. Automated generation and analysis of Markov reward models using stochastic reward nets. In C. Meyer and R. J. Plemmons, editors, Linear Algebra, Markov Chains, and Queueing Models, IMA Volumes in Mathematics and its Applications, volume 48, pages 145–191. Springer Verlag, 1993.
- [44] K. S. Trivedi and L. A. Tomek. Analyses using stochastic reward nets. In Lyu M. R., editor, Software Fault Tolerance, pages 139–166. Wiley Publications, 1995.
- [45] G. Ciardo, R. German, and C. Lindemann. A characterization of the stochastic process underlying a stochastic Petri net. *IEEE Transactions on Software Engineering*, 20(7):506–515, 1994.
- [46] H. Choi, V. G. Kulkarni, and K. S. Trivedi. Performance modeling using Markov regenerative stochastic Petri nets. *Performance Evaluation*, 20(1–3):339–356, 1994.
- [47] D. Logothetis, K. S. Trivedi, and A. Puliafito. Markov regenerative models. In *IEEE International Computer Performance and Dependability* Symposium (IPDS'95), pages 134–143, Erlangen, Germany, April 1995.

[48] M. Ajmone Marsan and G. Chiola. On Petri nets with deterministic and exponentially distributed firing times. In G. Rozenberg, editor, Advances in Petri Nets 1987, volume 266 of LNCS, pages 132–145. Springer Verlag, 1987.

- [49] C. Lindemann. An improved numerical algorithm for calculating steady-state solutions of deterministic and stochastic Petri net models. *Performance Evaluation*, 18(1):79–95, 1993.
- [50] J. B. Dugan, K. S. Trivedi, R. Geist, and V. F. Nicola. Extended stochastic Petri nets: Applications and analysis. In *PERFORMANCE '84*, Paris, 1984.
- [51] W. H. Sanders and L. M. Malhis. Dependability evaluation using composed SAN-based reward models. *Journal of Parallel and Distributed Computing*, 15(3):238–254, 1992.
- [52] K. Jensen. Coloured Petri nets and the invariant method. *Theoretical Computer Science*, 14:317–336, 1981.
- [53] K. Jensen. A brief introduction to colored Petri nets. In Workshop on the Applicability of Formal Models, pages 55–58, Aarhus, Denmark, 1998.
- [54] Z. Zenie. Colored stochastic Petri nets. In IEEE Int. Workshop on Timed Petri Nets, pages 262–271, Torino, Italy, July 1985.
- [55] G. Chiola, G. Bruno, and T. Demaria. Introducing a color formalism into generalized stochastic Petri nets. In 9th European Workshop on Application and Theory of Petri Nets, pages 202–215, Venezia, Italy, June 1988.
- [56] G. Chiola, D. Dutheillet, G. Franceschinis, and S. Haddad. Stochastic well-formed coloured nets for symmetric modelling applications. *IEEE Transactions on Computers*, 42(11):1343–1360, 1993.
- [57] C. Lin and D. C. Marinescu. On stochastic high-level Petri nets. In *IEEE Int. Workshop on Petri Nets and Performance Models*, pages 34–43, Madison, Wisconsin, USA, 1987.
- [58] C. Lin and D. C. Marinescu. Stochastic high-level Petri nets and applications. *IEEE Transactions on Computers*, 37(7):815–825, 1988.
- [59] G. Horton, V. G. Kulkarni, D. M. Nicol, and K. S. Trivedi. Fluid stochastic Petri nets: Theory, applications, and solution techniques. *European Journal of Operational Research*, 105:184–201, 1998.

[60] B. R. Haverkort. Markovian models for performance and dependability evaluation. In J.-P. Katoen, H. Brinksma, and H. Hermanns, editors, Lectures on Formal Methods and Performance Analysis, volume 2090 of LNCS, pages 38–83. Springer Verlag, 2001.

- [61] US National Institute of Standards and Technology. The economic impacts of inadequate infrastructure for software testing. Rti project number 7007.011, final report, US National Institute of Standards and Technology, May 2002.
- [62] A. M. Johnson Jr. and M. Malek. Survey of software tools for evaluating reliability, availability, and serviceability. ACM Computing Surveys, 20(4):227–269, 1988.
- [63] K. S. Trivedi and M. Malhotra. Reliability and performability techniques and tools: A survey. In 7th ITG/GI Conference on Measurement, Modelling and Evaluation of Computer and Communication Systems, pages 27–48, Aachen, Germany, 1993.
- [64] B. R. Haverkort and I. G. Niemegeers. Performability modelling tools and techniques. *Performance Evaluation*, 25(1):17–40, 1996.
- [65] R. A. Sahner and K. S. Trivedi. Reliability modeling using SHARPE. IEEE Transactions on Reliability, R-36(2):186–193, 1987.
- [66] R. Sahner, K. S. Trivedi, and A. Puliafito. Performance and reliability analysis of computer systems: An example based approach using the SHARPE software package. Kluwer Academic Publishers, Boston, 1995.
- [67] G. Ciardo, J. Muppala, and K. S. Trivedi. SPNP: Stochastic Petri net package. In *Third IEEE Int. Workshop On Petri Nets and Performance Models (PNPM'89)*, pages 142–151, Kyoto, Japan, 1989.
- [68] C. Beounes, M. Aguera, J. Arlat, C. Bourdeau, J.-E. Doucet, K. Kanoun, J.-C. Laprie, S. Metge, J. Moreira de Souza, D. Powell, and P. Spiesser. SURF-2: a program for dependability evaluation of complex hardware and software systems. In 23th IEEE Int. Symposium on Fault-Tolerant Computing (FTCS-23), pages 668-673, Toulouse, France, 1993.
- [69] G. Chiola, G. Franceschinis, R. Gaeta, and M. Ribaudo. GreatSPN 1.7: Graphical editor and analyzer for timed and stochastic Petri nets. Performance Evaluation, special issue on Performance Modeling Tools, 24(1-2):47-68, 1995.

[70] W. H. Sanders, W. D. Obal, M. A. Qureshi, and F. K. Widjanarko. The UltraSAN modeling environment. Performance Evaluation Journal, special issue on Performance Modeling Tools, 24(1):89–115, 1995.

- [71] S. Allmaier and S. Dalibor. PANDA Petri net analysis and design assistant. In TOOLS'97, 9th Int. Conference on Modelling Techniques and Tools for Computer Performance Evaluation, Saint Malo, France, 1997.
- [72] A. Horváth, A. Puliafito, M. Scarpa, M. Telek, and O. Tomarchio. Design and implementation of a WEB-based non-Markovian stochastic Petri net tool. In U. Gudukbay, T. Dayar, A. Gursoy, and E. Gelenbe, editors, Advances in Computer and Information Sciences, proceedings of ISCIS'98, Antalya, Turkey, volume 53 of Concurrent System Engineering Series, pages 101–109. IOS Press, Ohmsha, 1998.
- [73] A. Zimmermann, R. German, J. Freiheit, and G. Hommel. TimeNET 3.0 tool description. In 8th IEEE Int. Workshop on Petri Nets and Performance Models (PNPM'99), Zaragoza, Spain, 1999.
- [74] A. Bondavalli, S. Chiaradonna, F. Di Giandomenico, and I. Mura. Dependability modeling and evaluation of multiple-phased systems, using DEEM. *IEEE Transactions on Reliability*, 53(4):509–522, 2004.
- [75] T. Courtney, S. Gaonkar, K. Keefe, E. W. D. Rozier, and W. H. Sanders. Möbius 2.3: An extensible tool for dependability, security, and performance evaluation of large and complex system models. In 39th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2009), pages 353–358, Estoril, Lisbon, Portugal, June 29-July 2 2009.
- [76] T Murata. Petri nets: Properties, analysis, and applications. Proceedings of the IEEE, 77(4):541–580, 1989.
- [77] T. Agerwala. A complete model for representing the coordination of asynchronous processes. Hopkins Computer Research Report 32, Computer Science Program, Johns Hopkins University, Baltimore, Maryland, July 1974.
- [78] J. L. Peterson. Petri Net Theory and the Modelling of Systems. Prentice-Hall, Englewood Cliffs, New Jersey, 1981.
- [79] G. Balbo. Introduction to stochastic Petri nets. In E. Brinksma, H. Hermanns, and J. P. Katoen, editors, *Lectures on Formal Methods and*

- Performance Analysis, volume 2090 of LNCS, pages 84–155. Springer Verlag, 2001.
- [80] E. Teruel, G. Franceschinis, , and M. De Pierro. Clarifying the priority specification of GSPN: detached priorities. In 8th Int. Workshop on Petri Net and Performance Models (PNPM'99), pages 114–123, Zaragoza, Spain, 8-10 October 1999.
- [81] M. De Pierro. Structural analysis of conflicts and causality in GSPN and SWN: theory and applications. PhD thesis, Università degli Studi di Torino, Dipartimento di Informatica, Corso Svizzera 185 10149 Torino (Italia), 2004.
- [82] A. Avizienis, J.-C. Laprie, B. Randell, and C. Landwehr. Basic concepts and taxonomy of dependable and secure computing. *IEEE Transactions on Dependable and Secure Computing*, 1(1):11–33, 2004.
- [83] J. F. Meyer. On evaluating the performability of degradable computing systems. *IEEE Trans. on Comp.*, C-29:720–731, 1980.
- [84] W. H. Sanders and J. F. Meyer. A unified approach for specifying measures of performance, dependability and performability. In A. Avizienis and J. Laprie, editors, *Dependable Computing for Critical Applications*, Vol. 4 of Dependable Computing and Fault-Tolerant Systems, pages 215–237. Springer Verlag, 1991.
- [85] M. Ajmone Marsan, G. Chiola, and G. Conte. Generalized stochastic Petri nets revisited: Random switches and priorities. In *IEEE PNPM'87*, First Int. Workshop on Petri Nets and Performance Models, pages 44– 53, Madison, Wisconsin, 1987.
- [86] J. Meyer, A. Movaghar, and W. H. Sanders. Stochastic activity networks: Structure, behavior, and application. In *IEEE Int. Conference on Timed Petri Nets*, pages 106–115, Torino, Italy, 1985.
- [87] W. H. Sanders and J. F. Meyer. Stochastic activity networks: Formal definitions and concepts. In E. Brinksma, H. Hermanns, and J. P. Katoen, editors, Lectures on formal methods and performance analysis: first EEF/Euro summer school on trends in computer science, Berg en Dal, The Netherlands, July 3-7, 2000, Revised Lectures, volume 2090 of LNCS, pages 315–343. Springer-Verlag, 2001.
- [88] D. D. Deavours, G. Clark, T. Courtney, D. Daly, S. Derisavi, J. M. Doyle, W. H. Sanders, and P. G. Webster. The Möbius framework

- and its implementation. *IEEE Transactions on Software Engineering*, 28(10):956–969, 2002.
- [89] I. Mura, A. Bondavalli, X. Zang, and K. S. Trivedi. Dependability modeling and evaluation of phased mission systems: a DSPN approach. In *IEEE DCCA-7*, *IFIP Int. Conference on Dependable Computing for Critical Applications*, pages 319–337, San Jose, CA, USA, January 6-8 1999.
- [90] I. Mura and A. Bondavalli. Markov regenerative stochastic Petri nets to model and evaluate phased mission systems dependability. *IEEE Transactions on Computers*, 50(12):1337–1351, 2001.
- [91] A. Bondavalli, I. Mura, and K. S. Trivedi. Dependability modelling and sensitivity analysis of scheduled maintenance systems. In EDCC-3 European Dependable Computing Conference (also LNCS N. 1667), pages 7–23, Prague, Czech Republic, September 1999. Springer Verlag.
- [92] R. Filippini and A. Bondavalli. Modeling and analysis of a scheduled maintenance system: a DSPN approach. The Computer Journal, BCS, 47(6):634–650, 2004.
- [93] H. Choi, V. G. Kulkarni, and K. S. Trivedi. Transient analysis of deterministic and stochastic Petri nets. In 14th International Conference on Application and Theory of Petri Nets, pages 166–185, Chicago Illinois, USA, 1993.
- [94] Nutt G.J. Tutorial: Computer system monitors. Computer, 8(11):51 –61, 1975.
- [95] B. Plattner and J. Nievergelt. Special feature: Monitoring program execution: A survey. *Computer*, 14(11):76 –93, 1981.
- [96] Bernhard Plattner. Real-time execution monitoring. Software Engineering, IEEE Transactions on, SE-10(6):756 -764, 1984.
- [97] A. Q. Gates, S. Roach, O. Mondragon, and N. Delgado. Dynamics: Comprehensive support for run-time monitoring. In *Proceedings of the First Workshop on Runtime Verification (RV'01)*, pages 61–77. Elsevier, 2001.
- [98] A.K. Mok and Guangtian Liu. Efficient run-time monitoring of timing constraints. In *Real-Time Technology and Applications Symposium*, 1997. Proceedings., Third IEEE, pages 252—262, June 1997.

[99] B.A. Schroeder. On-line monitoring: a tutorial. *Computer*, 28(6):72 –78, June 1995.

- [100] Castle Park, Cambridge Cb Rd, Yigal Hoffner, and Yigal Hoffner. Monitoring in distributed systems monitoring in distributed systems, 1994.
- [101] Lorenzo Falai. Observing, Monitoring and Evaluating Distributed Systems. PhD thesis, University of Firenze, 2008.
- [102] H. Madeira, J. Costa, and M. Vieira. The olap and data warehousing approaches for analysis and sharing of results from dependability evaluation experiments. In *Dependable Systems and Networks*, 2003. *Proceedings*. 2003 International Conference on, pages 86 91, June 2003.
- [103] Peterson T. and Pinkelman J. *Microsoft Olap Unleashed*. Sams, first edition, 1999.
- [104] Assessing Measuring and Benchmarking Resilience. Amber d2.2 state of the art, 2009.
- [105] Brendan Murphy. Automating software failure reporting. *Queue*, 2:42–48, November 2004.
- [106] L. McLaughlin. Automated bug tracking: the promise and the pitfalls. Software, IEEE, 21(1):100 103, 2004.
- [107] A. Ganapathi and D. Patterson. Crash data collection: a windows case study. In *Dependable Systems and Networks*, 2005. DSN 2005. Proceedings. International Conference on, pages 280 285, 2005.
- [108] Rebecca Bace and Peter Mell. Nist special publication on intrusion detection systems. Technical report, NIST, National Institute of Standards and Technology, November 2001.
- [109] Luca Menichetti. Intrusion detection systems tecniche per la rilevazione di intrusioni sui sistemi informatici. Bachelor thesis, University of Firenze, 2007.
- [110] Towards a taxonomy of intrusion-detection systems. Comput. Netw., 31:805–822, April 1999.
- [111] Teresa F. Lunt. A survey of intrusion detection techniques. *Comput. Secur.*, 12:405–418, June 1993.

[112] N. Brownlee, C. Mills, and G. Ruth. Traffic flow measurement: Architecture, 1999.

- [113] Giovanni Pacifici and Rolf Stadler. An architecture for performance management of multimedia networks. In *Proceedings of the fourth international symposium on Integrated network management IV*, pages 174–186, London, UK, UK, 1995. Chapman & Hall, Ltd.
- [114] Yuming Jiang, Chen-Khong Tham, and Chi-Chung Ko. Challenges and approaches in providing qos monitoring. *Int. J. Netw. Manag.*, 10:323–334, November 2000.
- [115] Cristina Aurrecoechea, Andrew T. Campbell, and Linda Hauw. A survey of qos architectures. *Multimedia Syst.*, 6:138–151, May 1998.
- [116] Web network management protocol.
- [117] Mohammad A. Munawar and Paul A.S. Ward. Adaptive monitoring in enterprise software systems. In In SIGMETRICS 2006 Workshop on Tackling Computer Systems Problems with Machine Learning Techniques (SysML), 2006.
- [118] Microsoft Corporation. Windows management instrumentation: Background and overview.
- [119] M. C. Hsueh. Failure characterization of a large enterprise computing environment. In *Int. Workshop on Resilience Assessment and Dependability Benchmarking (RADB 2008), in DSN2008*, 2008.
- [120] Distributed management task force.
- [121] Alle Rechte Vorbehalten, Technischen Universität München, Oliver Arafat, Oliver Arafat, Andreas Bauer, Andreas Bauer, Martin Leucker, Martin Leucker, and Christian Schallhart. Runtime verification revisited. Technical report, 2005.
- [122] Amir Pnueli. The temporal logic of programs. In *Proceedings of the 18th Annual Symposium on Foundations of Computer Science*, pages 46–57, Washington, DC, USA, 1977. IEEE Computer Society.
- [123] Gregor Kiczales, John Lamping, Anurag Mendhekar, Chris Maeda, Cristina Videira Lopes, Jean-Marc Loingtier, and John Irwin. Aspect-oriented programming. In *ECOOP*, pages 220–242, 1997.

[124] Nelly Delgado, Ann Quiroz Gates, and Steve Roach. A taxonomy and catalog of runtime software-fault monitoring tools. *IEEE Trans. Softw. Eng.*, 30:859–872, December 2004.

- [125] A. Bondavalli, A. Ceccarelli, and L. Falai. Assuring resilient time synchronization. In *Reliable Distributed Systems*, 2008. SRDS '08. IEEE Symposium on, pages 3 –12, 2008.
- [126] A. Bondavalli, F. Brancati, A. Ceccarelli, and M. Vadursi. Experimental validation of a synchronization uncertainty-aware software clock. In *Reliable Distributed Systems, 2010 29th IEEE Symposium on*, pages 245–254, November 2010.
- [127] B. Tierney, W. Johnston, B. Crowley, G. Hoo, C. Brooks, and D. Gunter. The netlogger methodology for high performance distributed systems performance analysis. In *High Performance Distributed Computing*, 1998. Proceedings. The Seventh International Symposium on, pages 260 –267, July 1998.
- [128] A. Avizienis, J.C. Laprie, B. Randell, and C. Landwehr. Basic Concepts and Taxonomy of Dependable and Secure Computing. *IEEE Transactions on Dependable and Secure Computing*, 1(1):11–33, 2004.
- [129] R. Moraes, R. Barbosa, J. Duraes, N. Mendes, E. Martins, and H. Madeira. Injection of Faults at Component Interfaces and Inside the Component Code: Are They Equivalent? In Proceedings of the Sixth European Dependable Computing Conference, pages 53–64. IEEE Computer Society, 2006.
- [130] J.A. Clark and D.K. Pradhan. Fault Injection: A Method for Validating Computer-System Dependability. *Computer*, 28(6):47–56, 2002.
- [131] M.C. Hsueh, T.K. Tsai, and R.K. Iyer. Fault Injection Techniques and Tools. *IEEE Computer*, 30(4):82, 1997.
- [132] G.A. Kanawati, N.A. Kanawati, and J.A. Abraham. FERRARI: A Flexible Software-Based Fault and Error Injection System. *IEEE Transactions on Computers*, 44(2):248–260, 1995.
- [133] G.S. Choi and RK Iyer. FOCUS: An Experimental Environment for Fault Sensitivity Analysis. *Computers, IEEE Transactions on*, 41(12):1515–1526, 1992.
- [134] J.H. Barton, E.W. Czeck, Z.Z. Segall, and D.P. Siewiorek. Fault Injection Experiments using FIAT. *IEEE Transactions on Computers*, 39(4):575–582, 1990.

[135] J. Arlat, M. Aguera, L. Amat, Y. Crouzet, J.C. Fabre, J.C. Laprie, E. Martins, and D. Powell. Fault Injection for Dependability Validation: A Methodology and Some Applications. *IEEE Transactions on Software Engineering*, 16(2):166–182, 1990.

- [136] J. Aidemark, J. Vinter, P. Folkesson, and J. Karlsson. GOOFI: Generic Object-Oriented Fault Injection tool. In *Dependable Systems and Networks*, 2001. DSN 2001. International Conference on, pages 83–88. IEEE, 2001.
- [137] T. Tsai and R. Iyer. Measuring fault tolerance with the FTAPE fault injection tool. Quantitative Evaluation of Computing and Communication Systems, pages 26–40, 1995.
- [138] M. Grottke and K.S. Trivedi. Fighting Bugs: Remove, Retry, Replicate, and Rejuvenate. *IEEE Computer*, 40(2):107–109, 2007.
- [139] R. Natella and D. Cotroneo. Emulation of Transient Software Faults for Dependability Assessment: A Case Study. In *Dependable Computing Conference (EDCC)*, 2010 European, pages 23–32. IEEE, 2010.
- [140] H. Madeira, D. Costa, and M. Vieira. On the Emulation of Software Faults by Software Fault Injection. In Proceedings of the 2000 International Conference on Dependable Systems and Networks, pages 417–426. IEEE Computer Society, 2000.
- [141] J.A. Durães and H.S. Madeira. Emulation of Software faults: A Field Data Study and a Practical Approach. *IEEE Transactions on Software Engineering*, 32(11):849–867, 2006.
- [142] Roberto Natella, Domenico Cotroneo, Joao Duraes, and Henrique Madeira. Representativeness Analysis of Injected Software Faults in Complex Software. In *Dependable Systems and Networks (DSN)*, 2010 IEEE/IFIP International Conference on, pages 437–446, 2010.
- [143] M. Vieira and H. Madeira. A Dependability Benchmark for OLTP Application Environments. In Proceedings of the 29th International Conference on Very Large Data Bases, page 753. VLDB Endowment, 2003.
- [144] L. Keller, P. Upadhyaya, and G. Candea. ConfErr: A Tool for Assessing Resilience to Human Configuration Errors. In *IEEE International Con*ference on Dependable Systems and Networks, 2008. DSN 2008, pages 157–166, 2008.

[145] J. Fonseca, M. Vieira, and H. Madeira. Vulnerability & Attack Injection for Web Applications. In *Dependable Systems & Networks*, 2009. DSN'09. IEEE/IFIP International Conference on, pages 93–102. IEEE, 2009.

- [146] J. Arlat, A. Costes, Y. Crouzet, JC Laprie, and D. Powell. Fault Injection and Dependability Evaluation of Fault-Tolerant Systems. *IEEE Transactions on Computers*, 42(8):913–923, 1993.
- [147] J. Durães, M. Vieira, and H. Madeira. Multidimensional Characterization of the Impact of Faulty Drivers on the Operating Systems Behavior. IEICE Transactions on Information and Systems, 86(12):2563–2570, 2003.
- [148] A. Chou, J. Yang, B. Chelf, S. Hallem, and D. Engler. An Empirical Study of Operating Systems Errors. In Proceedings of the Eighteenth ACM symposium on Operating Systems Principles, pages 73–88. ACM, 2001.
- [149] EUROCONTROL. Air Navigation System Safety Assessment Methodology. http://www.eurocontrol.int, 2004. SAF.ET1.ST03.1000-MAN-01, v.2-0.
- [150] J. Durães, M. Vieira, and H. Madeira. Dependability Benchmarking of Web-Servers. In Proceedings of the 2004 International Conference on Computer Safety, Reliability and Security, 2004.
- [151] Standard Performance Evaluation Corporation (SPEC). SPECweb99 Release 1.02 (Design Document). http://www.spec.org/web99/, July 2002.
- [152] Jim Gray. Why Do Computers Stop and What Can Be Done About It? In Proc. 5th Symp. on Reliability in Distributed Software and Database Systems, pages 3–11, 1985.
- [153] I. Lee and RK Iyer. Faults, Symptoms, and Software Fault Tolerance in the Tandem GUARDIAN90 Operating System. In Fault-Tolerant Computing, 1993. FTCS-23. Digest of Papers., The Twenty-Third International Symposium on, pages 20–29, 1993.
- [154] M. Sullivan and R. Chillarege. Software Defects and their Impact on System Availability—A Study of Field Failures in Operating Systems. In Proceedings of the Twenty-First Annual International Symposium on Fault-Tolerant Computing, 1991.

[155] R. Chillarege, I.S. Bhandari, J.K. Chaar, M.J. Halliday, D.S. Moebus, B.K. Ray, and M.Y. Wong. Orthogonal Defect Classification—A Concept for In-Process Measurements. *IEEE Transactions on Software Engineering*, 18(11):943–956, 1992.

- [156] J. Christmansson and R. Chillarege. Generation of an Error Set that Emulates Software Faults based on Field Data. In *Proceedings of the The Twenty-Sixth Annual International Symposium on Fault-Tolerant Computing (FTCS'96)*, page 304. IEEE Computer Society, 1996.
- [157] J. Christmansson and P. Santhanam. Error Injection Aimed at Fault Removal in Fault Tolerance Mechanisms—Criteria for Error Selection using Field Data on Software Faults. In Proceedings of the The Seventh International Symposium on Software Reliability Engineering, page 175. IEEE Computer Society, 1996.
- [158] IEEE Std 610.12-1990. IEEE Standard Glossary of Software Engineering Terminology, 1990.
- [159] D.E. Perry and W.M. Evangelist. An Empirical Study of Software Interface Faults. In *International Symposium on New Directions in Computing*. IEEE Computer Society Press, 1985.
- [160] A. Johansson, N. Suri, and B. Murphy. On the Selection of Error Model(s) for OS Robustness Evaluation. In 37th Annual IEEE/IFIP International Conference on Dependable Systems and Networks, 2007. DSN'07, pages 502-511, 2007.
- [161] B.P. Miller, L. Fredriksen, and B. So. An empirical study of the reliability of UNIX utilities. Communications of the ACM, 33(12):32–44, 1990.
- [162] P. Koopman and J. DeVale. The Exception Handling Effectiveness of POSIX Operating Systems. *IEEE Transactions on Software Engineering*, 26(9):837–848, 2000.
- [163] J. Arlat, J.C. Fabre, and M. Rodríguez. Dependability of CO-TS Microkernel-based Systems. *IEEE Transactions on Computers*, 51(2):138–163, 2002.
- [164] N. Laranjeiro, S. Canelas, and M. Vieira. wsrbench: An On-Line Tool for Robustness Benchmarking. In Services Computing, 2008. SCC'08. IEEE International Conference on, pages 187–194. IEEE, 2008.

[165] IEEE Std 1003.1b 1993. IEEE Standard for Information Technology - Portable Operating System Interfaces (POSIX(R)) - Part 1: System Application Program Interface (API) - Amendment 1: Realtime Extension [C language], 1994.

- [166] H. Haas and A. Brown. Web Services Glossary, 2004.
- [167] M. Vieira, N. Laranjeiro, and H. Madeira. Assessing robustness of web-services infrastructures. In 37th Annual IEEE/IFIP International Conference on Dependable Systems and Networks, 2007. DSN'07, pages 131–136, 2007.
- [168] N. Antunes and M. Vieira. Detecting SQL Injection Vulnerabilities in Web Services. In *Dependable Computing*, 2009. LADC '09. Fourth Latin-American Symposium on, pages 17–24, 2009.