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**Publications**

**Ph.D. Thesis**

H. Gomaa, “A Modeling Approach to the Evaluation of Computer System Performance”, Imperial College of Science and Technology, London University, March 1976.

**Diploma of Imperial College Dissertation (equivalent to Master’s Thesis)**

H. Gomaa, “Implementation of Data Structures”, Imperial College of Science and Technology, London University, October 1968.

**Published Textbooks**

1. H. Gomaa, “Software Design Methods for Concurrent and Real-Time Systems”, Addison-Wesley SEI Series in Software Engineering, ISBN 0-201-52577-1, 1993. (Also translated into Chinese by Pearson Education Asia Ltd. and Tsinghua Press, 2003).
2. H. Gomaa, “Designing Concurrent, Distributed, and Real-Time Applications with UML”, Addison-Wesley Object Technology Series, ISBN: 0-201-65793-7, 2000. (Also translated into Chinese by Beijing University of Aeronautics and Astronautics Press, 2004).
3. H. Gomaa, “Designing Software Product Lines with UML: From Use Cases to Pattern-based Software Architectures”, Addison-Wesley Object Technology Series, ISBN: 0-201-77595-6, July 2004.
4. H. Gomaa, “Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures”, Cambridge University Press, ISBN: 9780521764148, February 2011.

**Refereed Journal Publications**

1. H. Gomaa, “An Exercise in Resource Allocation”, Software - Practice and Experience, Vol. No. 3, 1974.
2. H. Gomaa, “The Calibration and Validation of a Hybrid Simulation/Regression Model of a Batch Computer System”, Software, Practice and Experience, Vol. 8, No. 1, 1978.
3. H. Gomaa, “A Hybrid Simulation/Regression Model of a Virtual Storage System”, The Computer Journal, November 1981.

4. H. Gomaa, J. Lui and P. Woo, "The Software Engineering of a Microcomputer Application System", *Software - Practice and Experience*, Vol. 12, 309-321, 1982.
5. H. Gomaa, "The Design and Calibration of a Simulation Model of a Star Computer Network", *Software - Practice and Experience*, Vol. 12, 599-610, 1982.
6. H. Gomaa, "A Software Design Method for Real Time Systems", *Communications ACM*, Vol. 27, No. 9, September 1984, pages 938-949.
7. H. Gomaa, "Software Development of Real Time Systems", *Communications ACM*, Vol. 29, No.7, July 1986, pages 657-668.
8. H. Gomaa, "The Role of Prototyping in Large Scale Software System Development", *Large Scale Systems* 12, North-Holland, 1987.
9. H. Gomaa, "A Software Design Method for Distributed Real Time Applications", *Journal of Systems and Software*, February 1989.
10. H. Gomaa, L. Kerschberg, V. Sugumaran, "A Knowledge-Based Approach to Domain Modeling: Application to NASA's Payload Operations Control Centers", *Journal of Telematics and Informatics*, Vol. 9, Nos 3/4, 1992.
11. H. Gomaa, "A Behavioral Analysis Method for Real-Time Control Systems", *Control Engineering Practice*, Vol. 1, No. 1, pp 115-120, 1993.
12. H. Gomaa, "A Reuse-Oriented Approach to Structuring and Configuring Distributed Applications", *The Software Engineering Journal*, March 1993.
13. H. Gomaa, "Software Design Methods for Large Scale Real-Time Systems", *Journal of Systems and Software*, Vol. 25, No. 2, May 1994.
14. H. Gomaa, "Reusable Software Requirements and Architectures for Families of Systems", *Journal of Systems and Software*, April 1995.
15. H. Gomaa, L. Kerschberg, V. Sugumaran, C. Bosch, I Tavakoli, "A Knowledge-Based Software Engineering Environment for Reusable Software Requirements and Architectures", *Journal of Automated Software Engineering*, Vol. 3, 285-307, 1996.
16. H. Gomaa, D. Menasce, L. Kerschberg, "A Software Architectural Design Method for Large-Scale Distributed Information Systems", *Journal of Distributed Systems Engineering*, September 1996.
17. H. Gomaa, "Software Design Methods for Distributed Applications", *Virtual Roundtable on Software Engineering for Parallel and Distributed Systems*, *IEEE Concurrency*, July-September, 1997.

18. H. Gomaa and E. O'Hara, "Dynamic Navigation in Multiple View Software Specifications and Designs", *Journal of Systems and Software*, Vol. 41, 93-103, 1998.
19. H. Gomaa, "Use Cases for Distributed Real-Time Software Architectures", *Journal of Parallel and Distributed Computing Practices*, Vol. 1, No. 2, 1998, 1-14.
20. H. Gomaa and G.A. Farrukh, "Methods and Tools for the Automated Configuration of Distributed Applications from Reusable Software Architectures and Components", *IEE Proceedings – Software*, Vol. 146, No. 6, December 1999.
21. K. Mills and H. Gomaa, "A Knowledge-Based Method for Inferring Semantic Concepts from Graphical Models of Real-Time Systems", *ACM Transactions on Software Engineering and Methodology*, Vol. 9, No. 3, pages 306-337, July 2000.
22. D. Menasce and H. Gomaa, "A Method for Design and Performance Modeling of Client/Server Systems," *IEEE Transactions on Software Engineering*, Vol. 26, No.11, Pages 1066-1085, November 2000.
23. K. Mills and H. Gomaa, "Knowledge-Based Automation of a Design Method for Concurrent and Real-Time Systems", *IEEE Transactions on Software Engineering*, Volume: 28 Issue: 3, Pages 228 -255, March 2002.
24. D. Webber and H. Gomaa, "Modeling Variability in Software Product Lines with the Variation Point Model", *Journal of Science of Computer Programming*, Volume 53, Issue 3, Pages 305-331, Elsevier, December 2004.
25. B. Blake and H. Gomaa, "Agent-Oriented Compositional Approaches to Services-Based Cross-Organizational Workflow", *Journal of Decision Support Systems*, Volume 40, Issue 1, Pages 31-50, July 2005.
26. M.E. Shin and H. Gomaa, "Software Requirements and Architecture Modeling for Evolving Non-Secure Applications into Secure Applications", *Journal of Science of Computer Programming*, Volume 66, Issue 1, Pages 60-70, Elsevier, April 2007.
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28. H. Gomaa, "Model-based Software Design of Real-Time Embedded Systems", Invited paper for *International Journal of Software Engineering*, Vol. 1, No.1, Pages 19-41, January 2008.
29. H. Gomaa and M.E. Shin, "Multiple-View Modeling and Meta-Modeling of Software Product Lines", *Journal of IET Software*, Volume 2, Issue 2, Pages 94-122, Published by Institution of Engineering and Technology, April 2008.
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31. M. Kim, S. Kim, S. Park, M. Choi, M. Kim, H. Gomaa, "Service Robot for the Elderly: Software Development with the COMET/UML Method", IEEE Robotics and Automation Magazine, March 2009.
32. D. Menasce, H. Gomaa, S. Malek, J. Sousa, SASSY: A Framework for Self-Architecting Service-Oriented Systems", Accepted for publication in IEEE Software.

### **Publications in Refereed Conference Proceedings**

1. H. Gomaa and M.M. Lehman, "Performance Analysis of an Interactive Computing System in a Controlled Environment", Proceedings On-Line Conference on Computer System Evaluation, London, September 1973.
2. H. Gomaa and P.S. Roberts, "A postgraduate student project to design and implement the nucleus of a multiprogramming system". Proceedings of the U.K. Inter-University Computing Colloquium, Edinburgh, U.K. September 1973.
3. H. Gomaa, "Regression Models for the Evaluation of Computer System Performance". Proceedings of the Eurocomp Conference on Computer Performance Evaluation, London, September 1976.
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5. H. Gomaa, "A Hybrid Simulation/Regression Modelling Approach for Evaluating Multiprogramming Computer Systems". Proceedings of the IFIP International Symposium on Computer Performance Modelling, Measurement and Evaluation, Yorktown Heights, New York, August 1977.
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8. H. Gomaa, "A Simulation Model of a Star Computer Network. Proceedings of the IEEE International Conference on Communications, Boston, June 1979.
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11. H. Gomaa and D. B.H. Scott, "An APL Prototype of a Management and Control System for Semiconductor Fabrication Facility". Proceedings of the APL Users Conference, Toronto, Canada, October 1980.
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13. H. Gomaa, J. R. DeBolt and D.B.H. Scott, "PROMIS - A Process Management and Information System for Integrated Circuit Fabrication". Proceedings of the IEEE Conference on Computer Software and Applications (COMPSAC), Chicago, Illinois, November 1981.
14. H. Gomaa, "The Impact of Rapid Prototyping on Specifying User Requirements". Proceedings of the ACM Workshop on Rapid Prototyping, April 1982 and also in ACM Software Engineering Notes, April 1983.
15. H. Gomaa and S.J. Martello, "A Partially Automated Method for Testing Interactive Systems". Proceedings of the IEEE Conference on Computer Software and Applications (COMPSAC), Chicago, Illinois, November 1982.
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21. H. Gomaa and J. Taylor, "The Software Design of a Robot Controller", Proceedings of IEEE Industrial Electronics Conference, San Francisco, CA, November 1985.
22. H. Gomaa, "Computer Integrated Manufacturing Architecture for Flexible Manufacturing Systems". Proceedings of the Society for Manufacturing Engineers FMS86 Conference, March 1986.
23. H. Gomaa "Using the DARTS software design method for Real-Time Systems". Proceedings of the Structured Methods Conference, Chicago, August 1987.

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25. H. Gomma, "Extending the DARTS Software Design Method to Distributed Real-Time Applications". Proceedings of the Twenty-first Hawaii International Conference on System Sciences, IEEE Computer Society Press, 1988.
26. H. Gomma, "Software Design of Distributed Manufacturing Control Systems". Proceedings of the Third IEEE International Symposium on Intelligent Control, IEEE Press, 1988.
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28. H. Gomma, "Integrating Software Design Methods with CASE", Proceedings IEEE Computer Assisted Software Engineering Workshop (CASE 89), London, England, July 1989.
29. H. Gomma, R. Fairley and L. Kerschberg, "Towards an Evolutionary Domain Life Cycle Model", Proceedings Workshop on Domain Modeling for Software Engineering, OOPSLA 89, New Orleans, October 1989.
30. H. Gomma, "A Domain Requirements Analysis and Specification Method for Software Reuse", Proceedings Third Annual Workshop: Methods and Tools for Reuse, June 1990.
31. H. Gomma, "Criteria for Structuring a System into Objects", Proceedings Finding the Object Workshop, Object-Oriented Programming Systems Languages and Applications Conference, Ottawa, October 1990.
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34. H. Gomma, L. Kerschberg, C. Bosch, V. Sugumaran, and I. Tavakoli, "A Prototype Software Engineering Environment for Domain Modeling and Reuse," Proceedings NASA/Goddard Sixteenth Annual Software Engineering Workshop, December 1991. Also in Proceedings Fourth Annual Workshop on Methods and Tools for Reuse. Herndon, VA., November 1991.
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36. H. Gomma, "Structuring and Configuring Distributed Applications", Proceedings International Workshop on Configurable Distributed Systems, London, March 1992.

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49. H. Gomaa and L. Kerschberg, "Domain Modeling for Software Reuse and Evolution", Proceedings IEEE Computer Assisted Software Engineering Workshop (CASE 95), Toronto, July 1995.

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51. H. Gomaa and R. Pettit, "A Software Design Method for Ada 95 Based Concurrent and Real-Time Systems", Proceedings ACM Tri-Ada 95, Anaheim, November 1995.
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57. H. Gomaa, "Use Cases for Distributed Real-Time Software Architectures", Proc. IEEE International Workshop on Parallel and Distributed Real-Time Systems", Geneva, March 1997.
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61. D. Menasce and H. Gomaa, "On a Language Based Method for Software Performance Engineering of Client/Server Systems", Proceedings IEEE Workshop on Software Performance, Santa Fe, New Mexico, October 1998.
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84. M. Abdulla, D. Wijesekera and H. Gomaa, "Designing QoS Based Multimedia Systems Using UML", Proc. Ninth International Conference on Distributed Multimedia Systems, Miami, Florida, September 2003.
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