

## PERSONAL DATA

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**LinkedIn:** <https://www.linkedin.com/in/olekmali>  
**Membership:** IEEE, since 1992, Senior Member (2000)  
IEEE Industrial Electronics Society since 1998  
IEEE Standards Association since 2017  
**Volunteering:** IEEE Industrial Electronics Society: Senior Administrative Committee Member,  
Founding Member of IES Web and Information Committee;  
US FIRST Co-mentor for FTC Team #9985; BSA Troop #163 Committee member  
**Languages:** Polish (native/bilingual), German and Russian (elementary)  
**Hobby:** digital amateur photography, traveling, hiking, computers, electronic music  
**Web Presence:** <http://olek.matthewm.com.pl/>  
<http://www.bradley.edu/academic/departments/electrical/faculty/profile.dot?id=10917dd0-3092-4e27-95f5-7eb07a52e1c5>

## SKILLS

- Programming: C/C++ (embedded, client-server, Linux, STL, Atmel AVR, 8051), JAVA, PERL+CGI, Python
- Environments: Linux, µC-Linux, FreeRTOS, Micronet CMX TCP/IP Stack, MS-Windows, Oracle Virtual Box
- Mobile Robotics: Autonomous mobile navigation, Adept Mobile Robots' ARIA platform
- DTP, CMS, Web: Apache, MySQL, XHTML, Gallery, Joomla, WordPress, Expression, Office
- Hardware: Microcontrollers, computer networks, computer architecture, analog and digital electronics

## EMPLOYMENT

### 09.2004-present Associate Professor, Bradley University, Peoria, IL

- Research in the areas of networked cyber-physical systems, Internet of Things, and autonomous mobile navigation
- John Andrews Award for excellence in service to the profession, March 2008, March 2016.
- Developed new elective courses: RTOS, Embedded Microcontroller Linux, Embedded TCP/IP, instructional laboratory for the listed courses on embedded systems, Robotic Navigation with SLAM
- Representative to the University Senate, Faculty Handbook Editor, member of the subcommittee on curriculum

### 09.1998-08.04 Assistant Professor, Bradley University, Peoria, IL

- Research in the areas of network computing, computer networks, and Web-based control
- John Andrews Award for excellence in service to profession, February 17, 2004
- Developed new courses: Web programming, network computing, and computer networks

### 08.1997-07.98 Visiting Postdoctoral Research Associate, University of Wyoming, Laramie, WY

- Taught software and digital design courses in the Department of Electrical Engineering
- Research in the area of computer engineering, computer networks, and Web programming

### 01-08.1997 Assistant, Gdansk University of Technology, Poland

- Director of the Introduction to Electronics and Semiconductor Devices Laboratory
- Coordinated work of six faculty and staff members teaching in the laboratory

### 05.1995-12.96 System Programmer II, Kidney Disease Program, Baptist Hospital, Louisville, KY

- Developed software in C++/Borland OWL (Windows applications) and for HP palmtop computers

### 07.1996-12.96 Postdoctoral Researcher, Department of Electrical Engineering, University of Louisville

- Developed a software package for "Manufacturing Yield Optimization with Design Centering," application of inverse modeling and artificial neural network technology

### 08.1992-06.96 University Fellow and Research Assistant, Computer Science and Engineering Program, University of Louisville, Louisville, KY

- Research in the area of computational intelligence and artificial neural networks
- J. R. Binford Memorial Award, given for excellence in the doctoral program, May 1997

### 09.1989-08.1992 Teaching and Research Assistant, Gdansk University of Technology, Gdansk, Poland

## EDUCATION

07-12.1996 Postdoctoral study, University of Louisville, Louisville, KY

08.1996 **Doctor of Philosophy in Computer Science and Engineering, with highest honors,**

Ph.D. Advisor: Prof. Jacek M. Zurada, IEEE Fellow

University of Louisville, Louisville, KY

05.1990 **Master of Science in Electronic Engineering,** Gdansk University of Technology, Gdansk, Poland

Note: 5-year direct M.Sc. that includes curriculum of B.Sc. of Electronic and Computer Engineering

## **SELECTED AWARDS**

- John Andrews Award for Excellence in Service awarded by Bradley University: 2/17/2004, 3/5/2008, and 3/2016
- **2003 Anthony J. Hornfeck Service Award of the IEEE Industrial Electronics Society**, Roanoke, VA, November 4, 2003, given for excellence in service to the Society
- Elected Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), May 6, 2000
- **1997 John Richard Binford Memorial Award**, given for excellence in the doctoral program, University of Louisville, Louisville, KY, May 9, 1997
- Graduate School Dean's Citation, University of Louisville, Louisville, KY, May 1997
- University of Louisville Fellowship for academic years 1992-1996
- Yearly Awarded "The President of Technical University of Gdansk Outstanding Student" 1985-1990

## **TEACHING EXPERIENCE**

### **Bradley University**

- ECE103 Computers and Programming in EE (2011-2013, also as EE102: 1998-2010)
- ECE205 Microcontrollers (2012-2014)
- ECE322 [Microcontroller] Interfacing Lab (2015-2016)
- ECE467 Robotic Design Lab (2015)
- ECE470/570 Embedded Data Structures and OOP (2011-2016, also as EE221: 1998-2011)
- ECE471/571 Embedded C and RTOS (2008-2017)
- ECE472/572 Microcontroller Linux and Embedded Operating Systems (2009-2017)
- ECE473/573 Embedded TCP/IP (2005-2017, also as EE410/692: 1999-2004)
- ECE474/574 Robotic Navigation with SLAM (2008-2012)
- ECE 483/583 Microcomputer Architecture and Design (2015-2016)
- EE311 Digital Design (2001-2007)
- EE409/691 Web Programming for EE, Web Based Control with Java and PERL (1999-2011)
- Supervised 38+ senior capstone projects (74+ Students) (1988-2016)
- Supervised 27+ M.S.E.E. projects students (1998-2016)
- Supervised 1 M.S.E.E. thesis student (2010)
- Co-supervised/actively consulted 1 M.S.E.E. thesis student (2012)

### **University of Wyoming (1997-1998)**

- EE 2390 Digital System Design (1997)
- ES 3070 C with Numerical Methods for Engineers (1997-1988)
- EE 5390 Microprocessors and Finite State machines (1998)
- EE 5880 Advanced Network Programming (1998)

### **Gdansk University of Technology (1989-1992, 1997)**

- Introduction to Electronics, Semiconductor Devices, Devices Modeling and Circuit Simulation

## **CONTRACTS, GRANTS, AND SPONSORED RESEARCH**

- Miah, S. (PI), Malinowski, A. (Co-PI), "Area Coverage Optimization using Multiple Autonomous Agents," Illinois Space Grant Consortium, \$10,000.00, Funded (Submitted: March 2016, Start: October 2016, End: April 2018).
- Sanchez, J. R. (PI), Irwin Jr., J. (Co-PI), Malinowski, A. (Co-PI), Lu, Y. (Co-PI), "Ultrasound Research Platform for Coded Excitation and Pulse Compression," Office of Teaching Excellence and Faculty Development, Bradley University, \$3,000.00, Funded, (Submitted: September 2010, Start: October 2010, End: September 2011).
- Sanchez, J. R. (PI), Irwin Jr., J. (Co-PI), Malinowski, A. (Co-PI), Lu, Y. (Co-PI), "MRI Development of a Comprehensive Ultrasound Research Platform for Coded Excitation and Pulse Compression," National Science Foundation, \$420,110.00, Not Funded (Submitted: April 2010, End: August 2010).
- Post, S. L. (PI), Reyer, J. A. (Co-PI), Morris, M. (Co-PI), Malinowski, A. (Co-PI), "Online Wind Tunnel," CEGT - Heuser Award for Interdisciplinary Research, Bradley University, \$9,700.00, Funded, (Submitted: June 2009, Start: July 2009).
- Post, S. L. (PI), Morris, M. (Co-PI), Malinowski, A. (Co-PI), Reyer, J. A. (Co-PI), Wolffe, R. J. (Co-PI), "Internet-Accessible Wind Tunnel with Rapid Prototyping Model Development," National Science Foundation, \$196,010.00, Not Funded, (Submitted: May 2009).
- Malinowski, A. (PI), Dempsey, G.L. (Co-PI), "Network-Based Communication and Telepresence," Motorola, \$100,000; funded; June 1999-May 2001.

## CONSULTING

- Consulted for a local startup company in Peoria, and for a global law firm with a regional office in Chicago.

## RECENT PROFESSIONAL SERVICE

### Recent Volunteer Work

- **Senior Administrative Committee Member for IEEE Industrial Electronic Society (2010-)**
- Administrative Committee Member for IEEE Industrial Electronic Society (2005-07, reelected 2008-11)
- **Associate Editor for IEEE Transactions on Industrial Electronics (2004-2014)**
- **Associate Editor for IEEE Transactions on Industrial Informatics (2005-2006, 2011-)**
- Web Page Editor for the IEEE Industrial Electronics Society (IES) (1999-2007, 2014-)
- Associate Editor of the IEEE Industrial Electronics Society Newsletter (1998-2001)
- Chair of the Web and Information Committee of the IEEE Industrial Electronics Society (2005-2007)
- Officer for IEEE Industrial Electronic Society, Editor of the Society Newsletter (2002-2004)
- Member of the Conference Board of the IEEE Industrial Electronics Society (2004-2007)
- Member of the Publications Board of the IEEE Industrial Electronics Society (2006-2007)

### Volunteer Work for Professional Conferences (other than a reviewer)

- Conference Technical or Program Chair or Co-Chair
  - IEEE Conference on Human System Interaction: HSI 2008
  - IEEE International Symposium on Industrial Electronics: ISIE 2015, '06
  - Annual Conference of the IEEE Industrial Electronics Society: IECON 2005
- Technical Track Chair (arranging paper reviews and deciding about acceptance/rejection)
  - Annual Conference of the IEEE Industrial Electronics Society: IECON 2017, '14, '13, '12, '04, '03, '02
  - IEEE International Conference on Industrial Informatics: INDIN 2007
  - IEEE International Conference on Industrial Technology: ICIT 2006, '05, '04, '15
  - IEEE International Symposium on Industrial Electronics: ISIE 2004
- Special Session Chair at many IES sponsored conferences

### Service as Reviewer for Journals

- IEEE Industrial Electronics Magazine (2010-)
- IEEE Transactions on Industrial Electronics (2006-)
- IEEE Transactions on Industrial Informatics (2006-)
- IEEE Transactions on Neural Networks (2001, 2003, 2006)

### Book Reviews

- *Linux with Operating System Concepts* by Richard Fox, CRC, 2014.
- *Introduction to Computer Networks and Cybersecurity* by Chwan-Hwa Wu and David Irwin, CRC, 2013.
- *Fundamentals of Digital and Computer Design with VHDL* by R. Sandige and M/ Sandige, McGraw-Hill, 2011.
- *Just Java 2, 6th ed.* by Peter van der Linden, Prentice Hall, 2004.

### University Committee Work at Different Levels

- **Bradley University Faculty Handbook Editor (2011-)**
- Member of the Bradley University Senate Subcommittee on Curriculum (2013-)
- Member of the Bradley University Committee for Academic Technology Excellence (2009-)
- **Member of the Bradley University Senate (2007-)**
- Chair of the College Committee for Curriculum (2017-)
- Chair of the Faculty Search Committee ECE Department at Bradley University (2014, member since 1999-)
- ECE Department liaison to Bradley University Computing Services Department (2004-)

## PUBLICATIONS

- Journal Papers: 11; Keynote speeches: 1, Book Contributions: 6; Dissertations: 2;
- Conference Papers: 50; Reports: 4; Tutorials: 1; Articles in Newsletters: 2

See the attached list of publications.

Revised on March 26, 2017

**PUBLICATIONS**

Note: \* indicates student co-authors at the time of publication

**Journal Papers**

1. Jasinski, M., Majtczak, P., Malinowski, A., "Fuzzy logic in decision support system as a simple Human/Internet of Things interface for shunt active power filter," *Bulletin of the Polish Academy of Sciences Technical Sciences*, Vol. 64, Issue 4, 2016, pp. 877-886.
2. Korzeniewski, M., Kulikowski, K., Zakis, J., Jasinski, M., Malinowski, A., "Implementation of a Web-based remote control system for qZS DAB Application using low-cost ARM platform," to appear in *Bulletin of the Polish Academy of Sciences Technical Sciences*, Vol. 64, Issue 4, 2016, pp. 887-896.
3. Malik, M. K. \*, Chrestenson, J. R. \*, Parr IV, D. \*, Gray, D. \*, Mitiku, H. \*, Kahila, T., Malinowski, A., Sánchez, J., and Haverhals, L. M., "Probing Ionic Liquid/Electrode Interfaces by Hyperspectral Imaging," *Electrochemical Society Transactions*, vol. 75, No. 15, 2016, pp. 545-553.
4. Pham, N. \*, Wilamowski, B.M., Malinowski, A., "Computation utilization via computer networks", Human-Computer Systems Interaction. Background and Applications 2 series: Advances in Intelligent and Soft Computing (98 Part I) Springer-Verlag, pp.239-252, 2011.
5. Pham, N. \*, Malinowski, A., Bartczak, T., "Comparative Study of Derivative Free Optimization Algorithms," *IEEE Transactions on Industrial Informatics*, vol. 7, No. 4, November 2011, pp. 592-600.
6. Malinowski, A., Yu, H. \*, "Comparison of Embedded System Design for Industrial Applications," *IEEE Transactions on Industrial Informatics*, vol. 7, No. 2, May 2011, pp. 244-254.
7. Wilamowski, B., Malinowski, A., Regnier, J., "Internet as a New Graphical User Interface for Electronic Design Automation Tools," *IEEE Transactions on Industrial Electronics*, vol. 48, No. 6, Dec. 2001, pp. 1266-1268.
8. Zurada, J. M., Malinowski, A., Usui, S., "Perturbation Method for Deleting Redundant Inputs of Perceptron Networks," *Neurocomputing*, vol. 14, No. 2, February 1997, pp. 177-193.
9. Kozma, R., Malinowski, A. \*, Zurada, J. M., Kitamura, M., "Evaluating the Performance of Artificial Neural Networks Trained by Structural Learning," *Australian Journal of Intelligent Information Processing Systems*, vol. 3, No. 2, Winter 1996, pp. 10-15.
10. Zurada, J. M., Malinowski, A. \*, "Multilayer Perceptron Networks: Selected Aspects of Training Optimization," *Applied Mathematics and Computer Science*, 1994, vol. 4, No. 3, pp. 281-307.
11. Janke, W., Malinowski, A. \*, "The Modified Method for Fast Calculations of Convolution and Deconvolution," *Advances in Modeling and Analysis*, B, vol. 26, No 4, 1993, pp.31-41.

**Journal Guest Editorials**

1. Gaj, P. Malinowski, A., Sauter, T., Valenzano, A., "Guest Editorial: Distributed data processing in industrial applications," *IEEE Transactions on Industrial Informatics*, Vol.11, No.3, March 2015, pp.737-740.
2. Manic, M.; Gomes, L.; Malinowski, A.; , "Guest Editorial," *Industrial Electronics, IEEE Transactions on* , vol.58, no.3, March 2011, pp.718-721.

**Book Chapter Contribution**

1. Malinowski, A., Wilamowski, B. M., "User Datagram Protocol – UDP" for *Handbook on Industrial Electronics* edited by J. D. Irwin and B. N. Wilamowski; Invited and peer reviewed Chapter, CRC Press, 2010, pp. 59.1- 59.10.
2. Malinowski, A., Wilamowski, B. M., "Transmission Control Protocol – TCP" for *Handbook on Industrial Electronics* edited by J. D. Irwin and B. N. Wilamowski; Invited and peer reviewed Chapter, CRC Press, 2010, pp. 60.1- 60.17.
3. Pham, N., Wilamowski, B. M., Malinowski, A., "Running Software over Internet" for *Handbook on Industrial Electronics* edited by J. D. Irwin and B. N. Wilamowski; Invited and peer reviewed Chapter, CRC Press, 2010, pp. 63.1- 63.11.
4. Malinowski, A., Wilamowski, B.M., "TCP/IP Protocol" for *Handbook on Industrial Information Technology* edited by R. Zurawski; Invited chapter, CRC Press, 2005, pp. 16.1-16.14.
5. Malinowski, A., Wilamowski, B.M., "UDP Protocol" for *Handbook on Industrial Information Technology* edited by R. Zurawski; Invited chapter, CRC Press, 2005, pp. 17.1-17.5.
6. Co-author of the *Solution Manual for Introduction to Artificial Neural Systems*, by J. M. Zurada, PWS, 1992.

**Keynote Speech Delivered**

1. Malinowski, A., *Current Challenges for the Internet of Things Ecosystem* at 22nd International Science Conference: Computer Networks - CN2015, June 16-19, 2015, Brunow Palace, Lwowek Slaski, Silesia, Poland.

**Dissertations**

1. Malinowski, A. \*, *Reduced Perceptron Networks and Inverse Modeling Control*, Ph.D. Dissertation, University of Louisville, Computer Science and Engineering, August 1996, pp. 126.
3. Malinowski, A. \*, *Computer-aided verification of mask design of MOS integrated circuits*, M.Sc. Thesis, Technical University of Gdansk, Department of Electronics, Gdansk, May 1990.

**Conference Papers**

1. Miah, S., Knoll, J. \*, Malinowski, A., Spinello, D., "On the Implementation of Area Coverage Optimization using Mobile Robots," *42nd Annual Conference of the IEEE Industrial Electronics Society*, IECON 2016, October 24-27, 2016, p. 4916-4921.
2. Nowicki, K., Malinowski, A., Sikorski, M., "More Just Measure of Fairness for Sharing Network Resources," *Proceedings of the 23rd International Conference, CN 2016*, Brunow, Poland, June 14-17, 2016, pp. 52-58.
3. Nowicki, K., Malinowski, A., "Topology discovery of hierarchical Ethernet LANs without SNMP support," *41st Annual Conference of the IEEE Industrial Electronics Society*, IECON 2015, November 9-12, 2015, pp.005439-005443.
4. Pham, N. \*, Wilamowski, B. M., Malinowski, A., "Computer Networks as Human System Interface," *Proc. of Conference on Human System Interaction (HSII0)*, Rzeszow, Poland, May 13-15, 2010, pp. 182-188.
5. Heidenburg, B. \*, Lenisa, M. \*, Wentzel, D. \*, Malinowski, A., "Data Mining for Gaze Tracking System," *Proc. of Conference on Human System Interaction (HSII08)*, Krakow, Poland, May 25-27, 2008, pp. 680-683.
6. Neeli, S. \*, Govindasamy, K. \*, Wilamowski, K. \*, Wilamowski, B. M., and Malinowski, A., "Automated Data Mining from Web Servers Using Perl Script," *12th INES 2008 - International Conference on Intelligent Engineering Systems*, Miami, Florida, USA, February 25-29, 2008, pp. 191-196.
7. Kommineni, J. Devi \*, Malinowski, A., "Study of Time Delay Distribution in IP Protocol Family for IP-Network Based Control Applications," *Proc. of the 31th Annual Conference of the IEEE Industrial Electronics Society (IECON'05)*, Raleigh, North Carolina, USA, November 6-10, 2005, pp. 2423-2426.
8. Dunne, J. \*, Patnode, D. \*, Malinowski, A., Schertz, D., "WISENET - TinyOS Based Wireless Network of Sensors" *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'03)*, Roanoke, Virginia, November 2-6, 2003, pp. 2363-2368.
9. Wilamowski, B. M. , Hunter, D. \*, Malinowski, A., "Solving Parity-N Problems with Feedforward Neural Networks," *Proc. of the International Joint Conference on Neural Networks (IJCNN'03)*, Portland, Oregon, July 20-24, 2003, pp. 2546-2551.
10. Anakwa, W. K.N. , Roca, H. P. \*, Lopez, Jo. \*, Malinowski, A., "Environments for Rapid Implementation of Control Algorithms And Hardware-in-the-Loop Simulation," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'02)*, Sevilla, Spain, November 5-8, 2002, pp. 2288-2293.
11. Manic, M. \*, Wilamowski, B., Malinowski, A., "Internet based Neural Network Online Simulation Tool," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'02)*, Sevilla, Spain, November 5-8, 2002, pp. 2870-2874.
12. Malinowski, A., Booth, T. \*, Grady, S. \*, Huggins, B., "Real Time Control of a Robotic Manipulator via Unreliable Internet Connection," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'01)*, Denver, CO, November 29-December 2, 2001, pp. 170-175.
13. Malinowski, A., "Networked Home Automation Projects," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'01)*, Denver, CO, November 29-December 2, 2001, pp. 1758-1762.
14. Moscibrodzki, W. St. , Kwiatkowski, S. \*, Malinowski, A. , "A Reference Implementation of the Internet-supported Home Security System," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'01)*, Denver, CO, November 29-December 2, 2001, pp. 1838-1843.
15. Malinowski, A., Wilamowski, B., "Paper Collection and Evaluation Through the Internet," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'01)*, Denver, CO, November 29-December 2, 2001, pp. 1868-1873.
16. Malinowski, A., Dahlstrom, J. \*, Febles Cortez, P. \*, Dempsey, G., Mattus, C., "Web-based Remote Active presence," *Proc. of the 2000 ASEE Annual Conference*, Saint Louis, MO, June 91-21, 2000.

17. Wilamowski, B., Malinowski, A., "GradeWatch - the Software Package Displaying on Web Pages Student Grades," *Proc. of the 2000 ASEE Annual Conference*, Saint Louis, MO, June 91-21, 2000.
18. Malinowski, A., Wilamowski, B., "Web-based C++ Compilers," *Proc. of the 2000 ASEE Annual Conference*, Saint Louis, MO, June 91-21, 2000.
19. Wilamowski, B., Malinowski, A., Regnier, J., "SPICE based Circuit Analysis using Web Pages," *Proc. of the 2000 ASEE Annual Conference*, Saint Louis, MO, June 91-21, 2000.
20. Malinowski, A., Konetski, T. \*, Davis, B. \*, Schertz, D., "Web-Controlled Robotic Manipulator using Java and Client-Server Architecture," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'99)*, San Jose, CA, November 29-December 3, 1999, vol. 2, pp. 827-830.
21. Malinowski, A., Wilamowska, K. \*, "Grade Info-line: A Web-based Grade Information System," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'99)*, San Jose, CA, November 29-December 3, 1999, vol. 1, pp. 11-115.
22. Wilamowski, B. M., Chen, Y., Malinowski, A., "Efficient Algorithm for Training Neural Networks with one Hidden Layer," *Proc. of the International Joint Conference on Neural Networks (IJCNN'99)*, Washington, D.C., USA, July 10-16, 1999.
23. Malinowski, A., Cretti, S. \*, Smith, D. A., Wilamowska, K. \*, "A Web-based Extension Spring Design program," *Proc. of SMI Spring Industry 1999 Technical Symposium*, Chicago, IL, May 18-20, 1999, pp. 9-12.
24. Malinowski, A., Wilamowski, B. M., "Internet Accessible Compilers in Software and Computer Engineering," *Proc. of the ICSEE/Western Multiconference*, San Francisco, CA, January 17-20, 1999, pp. 221-224.
25. Malinowski, A., Smith, D., Wilamowska, K. \*, Cretti, S. \*, "Extension Spring Design Calculator: a Web-based Mechanical Engineering CAD Tool," *Proc. of the ICSEE/Western Multiconference*, San Francisco, CA, January 17-20, 1999, pp. 493-496.
26. Regnier J., Malinowski A., Wilamowski B., "SIP - Spice Intranet Package," *Proc. of IEEE International Symposium on Industrial Electronics (ISIE'98)*, Pretoria, South Africa, July 7-10, 1998, pp. 493-496.
27. Zurada, J. M., Lozowski, A. \*, Malinowski, A., "Yield Improvement in GaAs IC Manufacturing using Neural Network Inverse Modeling," *Proc. of the International Joint Conference on Neural Networks (IJCNN'97)*, Houston, Texas, USA, June 9-12, 1997.
28. Zurada, J. M., Lozowski, A. \*, Malinowski, A., "Design Centering in GaAs IC Manufacturing," *Proc. of the IEEE Aerospace Conference*, Snowmass, Colorado, USA, February 1-8, 1997, vol. 2, pp. 435-447.
29. Malinowski, A. \*, Miller, D. A. \*, Zurada, J. M., "Reduction of Neural Network Models for Identification and Control of Nonlinear Systems," *Proc. of the IEEE International Conference on Neural Networks*, Washington, D.C., June 3-6, 1996, vol. 4, pp. 2250-2254.
30. Malinowski, A. \*, Cholewo, T. J. \*, Zurada, J. M., Aronhime, P. B., "Inverse Mapping with Neural Network for Control of Nonlinear Systems," *Proc. of the 1996 IEEE International Symposium on Circuits and Systems*, Atlanta, Georgia, May 12-15, 1996, vol. 3, pp. 453-456.
31. Malinowski, A. \*, Zurada, J. M., Lilly, J. H., "Inverse Control of Nonlinear Systems Using Neural Network Observer and Inverse Mapping Approach," *Proc. of the 1995 IEEE International Conference on Neural Networks*, Perth, Australia, November 27 - December 1, 1995, pp. 2513-2518.
32. Kozma, R., Malinowski, A. \*, Kitamura, M., Zurada, J. M., "On Performance Measures of Artificial Neural Networks Trained by Structural Learning Algorithms," *Proc. of the Artificial Neural Networks and Expert Systems Conference*, University of Otago, Dunedin, New Zealand, November 20 - 23, 1995, pp. 22-25, IEEE Computer Society Press, Los Alamitos, California, Editors: N.K. Kasabov, G. Coghill.
33. Malinowski, A. \*, Miller, D. A. \*, Zurada, J. M., "Reconciling Training and Weight Suppression: New Guidelines for Pruning-Efficient Training," *Proc. of the World Congress on Neural Networks*, Washington, D. C., July 17-21, 1995, vol. 1, pp. 724-728.
34. Yasui, S., Malinowski, A. \*, Zurada, J. M., "Convergence Suppression and Divergence Facilitation: New Approach to Prune Hidden Layer and Weights of Feedforward Neural Networks," *Proc. of the 1995 IEEE International Symposium on Circuits and Systems*, Seattle, Washington, April 30 - May 3, 1995, vol. 1, pp. 121-124.
35. Malinowski, A. \*, Cholewo, T. J. \*, Zurada, J. M., "Capabilities and Limitations of Feedforward Neural Networks with Multilevel Neurons," *Proc. of the 1995 IEEE International Symposium on Circuits and Systems*, Seattle, Washington, April 30 - May 3, 1995, vol. 1, pp. 131-134.

36. Wilamowski, B. M., Zurada, J. M., Malinowski, A. \*, "Steepest Descent Retrieval Algorithm for Autoassociative Neural Memory," *Proc. of the IEEE International Conference on Neural Networks*, Orlando, Florida, June 28 - July 2, 1994, pp. 1125-1129.
37. Malinowski, A. \*, Zurada, J. M., "Minimal Training Set Size Estimation for Sampled-Data Function Encoding," *World Congress on Neural Networks*, San Diego, California, June 5-9, 1994.
38. Zurada, J. M., Malinowski, A. \*, Cloete, I., "Sensitivity Analysis for Minimization of Input Data Dimension for Feedforward Neural Networks," *Proc. of the 1994 International IEEE Symposium on Circuits and Systems*, London, England, May 28 - June 1, 1994, vol. 6, pp. 447-450.
39. Zurada, J. M., Malinowski, A. \*, "Minimal Training Set Size Estimation for Neural Network - Based Function Approximation," *Proc. of the 1994 International IEEE Symposium on Circuits and Systems*, London, England, May 28 - June 1, 1994, vol. 6, pp. 403-406.
40. Zurada, J. M., Malinowski, A., Cloete, I. \*, "Sensitivity Analysis for Pruning of Training Data in Feedforward Neural Networks," *Proc. of the First Australian and New Zealand Conference on Intelligent Information Systems*, Perth, Australia, December 1-3, 1993, pp. 288-292.
41. Zurada, J. M., Malinowski, A. \*, "Minimal Training Set Size Estimation for Neural Network-Based Function Encoding," *Proc. of the Artificial Neural Networks in Engineering Conference*, St. Louis, Missouri, November 14-17, 1993, pp. 149-154.
42. Zurada, J. M., Malinowski, A. \*, "Sampling Rate for Information Encoding Using Multilayer Neural Networks," *Proc. of the International Joint Conference on Neural Networks*, Nagoya, Japan, October 25-29, 1993.
43. Zurada, J. M., Malinowski, A. \*, Przechodzinski, P. \*, "Modified Hebbian Learning Rule for Single Layer Learning," *IEEE International Symposium on Circuits and Systems*, Chicago, Illinois, May 3-6, 1993, pp. 2407-2410.
44. Desai, M. \*, Malinowski, A. \*, "Neural Network Model for Time- Series Data Prediction," *Proc. of International Fuzzy Systems and Control Conference*, Louisville, Kentucky, March 1993, pp. 241-247.
45. Janke, W., Malinowski, A. \*, "The Modified Method for Fast Calculations of Convolution and Deconvolution," *Proc. of AMSE Conference Signals and Systems*, Geneva, June 17-19, 1992.
46. Janke, W., Malinowski, A. \*, "Semi-analytical Algorithms for Convolution and their Usage In Simulation of Dynamical Systems," Zakopane, Poland, June 1992 (in Polish).
47. Janke, W., Malinowski, A. \*, "Algorithms for Calculations of Thermal Transients in Electron Devices Working in Switching Conditions," *Proc. of the Symposium on Principles of Electrotechnics and Circuit Theory*, Wisla, Poland, April 1992 (in Polish).
48. Malinowski, A. \*, Wilamowski, B., "Circuit Oriented Extractor of Bipolar Integrated Circuits," *Proc. of the National Conference on Circuits Theory and Electronic Circuits*, Rzeszow-Myczkowce, Poland, October 17-20, 1989, vol. 2, pp. 31-38 (in Polish).
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