Aleksander MALINOWSKI, Ph.D.

PERSONAL DATA

Address:	ECE Department; Bradley University, Peoria, IL 61625, USA
Phone:	+1 (309) 306 1131
E-mail:	olekmali *at* ieee *dot* org, olekmali *at* bradley *dot* edu
LinkedIn:	https://www.linkedin.com/in/olekmali
Google Scholar:	https://scholar.google.com/citations?hl=en&user=ygURmXYAAAAJ
Membership:	IEEE, since 1992, Senior Member since 2000
	IEEE Industrial Electronics Society since 1998
	IEEE Standards Association since 2017
Volunteering:	IEEE Industrial Electronics Society: Treasurer, Senior Administrative Committee Member, Founding Chair and current member of IES Web and Information Committee;
Past volunteering:	US FIRST Co-mentor for FTC Team #9985, FRC Machine Attributes Judge;
Languages:	English and Polish (native/bilingual), German and Russian (elementary)
Hobby:	amateur digital photography, traveling, hiking, computers, electronic music
Web Presence:	https://olek.matthewm.com.pl/
	https://www.bradley.edu/faculty/olekmali

SKILLS

- Programming: C, C++ (client-server, Linux, STL, embedded), Java, Java Script, Python, µPython, PERL, CGI
- Environments: Linux: Buildroot, Cent OS, Debian; FreeRTOS, Git, TCP/IP stack, Virtual Box, Windows
- Hardware: ATMega, BeagleBone, ESP32, Raspberry Pi, STM-32, Silicon Labs 8051
- Theory: Microcontrollers, analog electronics, computer networks, computer architecture, data structures
- CMS, DTP, Web: Apache (LAMP, WAMP), XHTML, cPanel, Joomla, WordPress, Libre/MS Office,

EMPLOYMENT

08.2019-present   **Professor, Bradley University, Peoria, IL**
- Research in the areas of networked cyber-physical systems, factory automation, home automation, Internet of Things
- Developed course and laboratory for Cybersecurity for Industrial Control Systems
- Redeveloped microcontroller interfacing junior laboratory to allow for both in-lab and remote experience
- Chair of departmental and college tenure and promotion committees, member or chair of several college committees

09.2004-07.2019   **Associate Professor, Bradley University, Peoria, IL**
- Research in the areas of networked cyber-physical systems, home automation, 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, an instructional laboratory for the listed courses on embedded systems, Robotic Navigation with SLAM
- University Senate Member, Faculty Handbook Editor, member of the university subcommittee on curriculum
- Chair of several successful new faculty search committees and of an external department chair

09.1998-08.2004   **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 the profession, February 17, 2004
- Developed new courses: Web programming, network computing, and computer networks

08.1997-07.1998   **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 of the Solid State Component Laboratory

Aleksander MALINOWSKI, Ph.D.

05.1995-12.1996 **System Programmer II, Kidney Disease Program, Baptist Hospital, Louisville, KY**
- Developed software in C++/Borland OWL (Windows applications) and for HP palmtop computers

07.1996-12.1996 **Postdoctoral Researcher, Department of Electrical Engineering, University of Louisville**
- Developed a software package for "Manufacturing Yield Optimization with Design Centering," an application of inverse modeling and artificial neural network technology

08.1992-06.1996 **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,** University of Louisville, Louisville, KY. Ph.D. Advisor: Prof. Jacek M. Zurada, IEEE Fellow

05.1990 **Master of Science in Electronic Engineering**, Gdansk University of Technology, Gdansk, Poland
Note: 5-year direct M.Sc. that includes a curriculum of B.Sc. of Electronic and Computer Engineering

SELECTED AWARDS

- John Andrews Award for Excellence in Service, awarded three times 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

CONSULTING

- Consulted for ASSECO Poland S.A. (07.2017 – 06.2020)
- Consulted for a local startup company in Peoria, and for a global law firm with a regional office in Chicago

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: December 2019).
- 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).

Aleksander MALINOWSKI, Ph.D.

- Malinowski, A. (PI), Dempsey, G.L. (Co-PI), "Network-Based Communication and Telepresence," Motorola, $100,000; funded; June 1999-May 2001.

RECENT TEACHING EXPERIENCE

Bradley University

- ECE103 Computers and Programming in EE (2011-2013, 2018, also as EE102: 1998-2010, 2018, 2022)
- ECE205 Microcontrollers (2012-2014, 2019-)
- ECE322 [Microcontroller] Interfacing Lab (2015-)
- ECE467 Robotic Design Lab (2015)
- ECE470/570 Embedded Data Structures and OOP (2011-, also as EE221: 1998-2011)
- ECE471/571 Embedded C and RTOS (2008-)
- ECE472/572 Microcontroller Linux and Embedded Operating Systems (2009-)
- ECE473/573 Embedded TCP/IP (2005-, also as EE410/692: 1999-2004)
- ECE474/574 Robotic Navigation with SLAM (2008-2012)
- ECE410 Industrial Network Cybersecurity (2022-
- ECE483/583 Microcomputer Architecture and Design (2015-2017)
- EE311 Digital Design (2001-2007)
- EE409/691 Web Programming for EE, Web-Based Control with Java and PERL (1999-2011)
- Supervised 51+ senior capstone projects (100+ Students) (1998-) (as of spring 2022)
- 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)

RECENT PROFESSIONAL SERVICE

Recent Professional Volunteer Work for IEEE Industrial Electronics Society

- **Officer and Treasurer for IEEE Industrial Electronics Society** (20223-)
- **Officer and Interim Treasurer for IEEE Industrial Electronics Society** (2022)
- **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, 2011-2020)
- 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, 2020)
- 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, *ex officio*: 2022-)
- Member of the Publications Board of the IEEE Industrial Electronics Society (2006-2007, *ex officio*: 2022-)

Volunteer Work for Professional Conferences (other than a reviewer)

- Conference Treasurer
  - Annual Conference of the IEEE Industrial Electronics Society: IECON 2024
  - IEEE International Conference on Industrial Technology: ICIT 2023
  - International Electric Machines and Drives Conference: IEMDC 2023
- Conference Technical or Program Chair or Co-Chair
  - IEEE Conference on Human System Interaction: HSI 2012, 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 2019, '18, '17, '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 2019, '04
- Reviewer and Special Session Chair at many IES-sponsored conferences

Recent Service as Reviewer for Journals

- IEEE Transactions on Industrial Informatics
- IEEE Transactions on Industrial Electronics
- IEEE Industrial Electronics Magazine

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 (2011-19)
- Member of the Bradley University Subcommittee on Curriculum (2013-21)
- Member of the Bradley University Senate (2007-19)
- Member of the Bradley University Sabbatical Committee (2018-)
- Member of the Bradley University Committee for Academic Technology Excellence (2009-15)
- Chair of the College Tenure and Promotion Committee (2022-, member since 2019)
- Chair of the College Committee for Curriculum (2017-22)
- Chair of the Faculty Search Committee ECE Department at Bradley University (2014-19, member since 1999)
- ECE Department liaison to Bradley University Computing Services Department (2004-15)

PUBLICATIONS

- Journal Papers: 13; Keynote speeches: 1; Book Contributions: 6; Dissertations: 2;
- Conference Papers: 55; Reports: 4; Tutorials: 1; Articles in Newsletters: 2

See the attached list of publications.

Revised on February 16, 2023

Aleksander MALINOWSKI, Ph.D.

PUBLICATIONS

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

Journal Papers

1. Mastalerz, M. W. , Malinowski, A. , Kwiatkowski, S. , Sniegula, A. , Wieczorek, B. , "Passenger BIBO detection with IoT support and machine learning techniques for intelligent transport systems," *Procedia Computer Science*, Volume 176, 2020, pp. 3780-3793, doi: 10.1016/j.procs.2020.09.009.

2. Mastalerz, M. W. , Malinowski, A., Koziej, P., Kwiatkowski, S, Wojdera, P., Piotrowski, M., Wieczorek, B., "The concept of managing the automatic fare collection and settlement proces for mass transport services," *Economics and Organization of Enterprise*, vol. 11 (824), November 2018, pp. 79-89.

3. 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, doi: 10.1515/bpasts-2016-0096.

4. 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," *Bulletin of the Polish Academy of Sciences Technical Sciences*, Vol. 64, Issue 4, 2016, pp. 887-896, doi: 10.1515/bpasts-2016-0097.

5. 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, doi: 10.1149/07515.0545ecst.

6. 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, doi: 10.1007/978-3-642-23187-2_15.

7. 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, doi: 10.1109/TII.2011.2166799.

8. 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, doi: 10.1109/TII.2011.2124466.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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. De Silva, D., Nawaratne, R., Ruminski, J., Malinowski, A., Manic, M., "Human System Interaction in Review: Advancing the Artificial Intelligence Transformation," *2022 15th International Conference on Human System Interaction (HSI)*, Melbourne, Australia, 2022, pp. 1-5, doi: 10.1109/HSI55341.2022.9869473.

2. Rozycki, P., Kolbusz, J., Malinowski, A., Wilamowski, B., "Effective Training of RBF Networks," *Proc. of IEEE 12th International Conference on Human System Interaction*, HSI 2019, June 25-27, 2019, pp. 22-27.

3. Rozycki, P., Kolbusz, J., Malinowski, A., Wilamowski, B., "The Impact of Architecture on the Deep Neural Networks Training," *Proc. of IEEE 12th International Conference on Human System Interaction*, HSI 2019, June 25-27, 2019, pp. 41-46.

4. Miah, S., Knoll, J.*, Malinowski, A., "Heterogeneous multi-robot trajectories for area coverage optimization," *Proc. of IEEE 26th International Symposium on Industrial Electronics*, ISIE 2017, June 19-21 2017, pp. 1099-1104.

5. Knoll, J.*, Hevrdejs, K.*, Malinowski, A., S. Miah, Miah, S., "Virtual robot experiments for navigation in structured environments," *Proc. of IEEE 26th International Symposium on Industrial Electronics*, ISIE 2017, June 19-21 2017, pp. 1173-1178.

6. 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, pp. 4916-4921.

7. 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.

8. 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.

9. Pham, N.*, Wilamowski, B. M., Malinowski, A., "Computer Networks as Human System Interface," *Proc. of Conference on Human System Interaction (HSI10)*, Rzeszow, Poland, May 13-15, 2010, pp. 182-188.

10. Heidenburg, B.*, Lenisa, M.*, Wentzel, D.*, Malinowski, A., "Data Mining for Gaze Tracking System," *Proc. of Conference on Human System Interaction (HSI08)*, Krakow, Poland, May 25-27, 2008, pp. 680-683.

11. 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.

12. Kommineni, J. Devi*, Malinowski, A., "Study of Time Delay Distribution in IP Protocol Family for IP-Network Based Control Applications," *Proc. of the 31st Annual Conference of the IEEE Industrial Electronics Society (IECON'05)*, Raleigh, North Carolina, USA, November 6-10, 2005, pp. 2423-2426.

13. 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.

14. 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.

15. 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.

16. 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.

17. 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.

18. 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.

19. 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.

20. 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.

21. 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.

22. 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.

23. Malinowski, A., Wilamowski, B., "Web-based C++ Compilers," *Proc. of the 2000 ASEE Annual Conference,* Saint Louis, MO, June 91-21, 2000.

24. 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. 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.

32. 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.

33. 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.

34. 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.

35. 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.

36. 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.

37. 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.

38. 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.

39. 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.

40. 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.

41. 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.

42. 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.

43. 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.

44. 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.

45. 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.

46. 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.

47. 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.

48. Zurada, J. M., Malinowski, A.[*], Przestrzelski, 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.

49. 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.

50. 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

51. Janke, W., Malinowski, A.[*], "Semi-analytical Algorithms for Convolution and their Usage In Simulation of Dynamical Systems," Zakopane, Poland, June 1992 (in Polish).

52. 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).

53. 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).

54. Kalman, W.[*], Malinowski, A.[*], Piwakowski, K.[*], Wilamowski, B., "Digital Integrated Circuits Simulating Program for Microcomputers," *Proc. of National Conference on Telecommunication KST'89*, Bydgoszcz, Poland, September 6-8, 1989, vol. E, pp. 13-21 (in Polish).

55. Malinowski, A.[*], "Computer Methods of Verification for Projects of Integrated Circuits," *Proc. of International Conference of Students and Young Researchers*, Zielona Gora, Poland, April 10-13, 1989, vol. Elektronika, pp. 26-30 (in Polish).

Major Grants and Technical Reports

1. Malinowski, A., Dempsey G., "Teleconferencing Robot," Funded grant for $96,000 sponsored by Motorola, ECE Department; Bradley University, June 1999-May 2001.

2. Zurada, J. M., Creech, G. L., Malinowski, A., Lozowski, A.[*], "Neural Networks for Inverse Parameter Modeling of IC Fabrication Stages," Final Report, ONR Grant (N00014-93-1-0855), Department of Electrical Engineering, University of Louisville, July 1, 1995 - Dec. 31, 1996.

3. Zurada, J. M., Creech, G. L., Malinowski, A.[*], Lozowski, A.[*], "Neural Networks Modeling for Yield Enhancement in Semiconductor Manufacturing," Final Report, ONR Grant, Department of Electrical Engineering, University of Louisville, July 1, 1993 - Sep. 30, 1995.

4. Malinowski, A.[*], as one of four co-authors: *Development of CAD Tools for ASIC Design, Simulation and Verification*, Technical University of Gdansk, 1988, for Research Center for Specialized Electronic Circuits MERA-OBREUS in Torun, Poland (in Polish).

Tutorials

1. Malinowski, A., Wilamowski, B., "Internet Technology as a Tool for Solving Engineering Problems," *Proc. of the Annual Conference of the IEEE Industrial Electronics Society (IECON'01),* Denver, CO, November 29-December 2, 2001, pp. 1622-1630.

Newsletter Publications

1. Malinowski, A., "Portable Document Format - How to create a file? How portable it really is?," *Newsletter of IEEE Industrial Electronics Society,* vol. 1-2, June 2002.

2. Malinowski, A., "CORBA - the New Technology for Industrial and Telecommunication Network-Distributed Applications," *Newsletter of IEEE Industrial Electronics Society*, vol. 2, June 1998.

Revised on January 12, 2023