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EDUCATION

1998, [University of Louisville](#), Louisville, KY

Ph.D. in Computer Science and Engineering. Dissertation “Neural Networks with Dynamic Synapses for Time Series Prediction.” Advisor: [Dr. Jacek M. Zurada](#), IEEE Fellow. 3.97/4.0 GPA.

1997, [University of Louisville](#), Louisville, KY

M.Sc. in Computer Science, 3.92/4.0 GPA.

1994, [Technical University of Gdansk](#), Gdansk, Poland

M.Sc. in Electronics with Highest Honors with specialization in Biomedical Engineering. Thesis entitled “Reconstruction Algorithms for Immitance Mammography.” Graduated in the top 2 percent of the class. Completed many additional courses from the computer science curriculum. 3.78/4.0 GPA. Exam scores: GRE 2120/2400, TOEFL 643/660.

WORK EXPERIENCE

2001–Present, [Lexmark International, Inc.](#), Lexington, KY

Specialist Engineer/Scientist, Software Research Department

1998–2001, [Lexmark International, Inc.](#), Lexington, KY

Senior Engineer/Scientist, Software Research Department

- Performed applied research in the area of color science. Invented new methods for providing color mappings based on nonlinear printer models. Authored patent applications, invention disclosures and conference papers describing these methods. Presented the research results at international color science conferences.
- Applied the research methods to constructing calibrated CMYK transforms, creating color rendering dictionaries and ICC printer profiles, and gray component replacement.
- Developed a novel method for finding a surface and a volume of a device gamut based on colorimetric measurements.
- Developed software packages for 3-D visualizations of color spaces.
- Represented [Lexmark International, Inc.](#) in the International Color Consortium (ICC).

1994–1998, [University of Louisville](#), Louisville, KY

University Fellow and Research Assistant

- Performed original research in the area of computational intelligence and artificial neural networks. Presented results at major international conferences. See publication list for details.
- Presented research seminars on average two times a semester as a member of [Computational Intelligence Laboratory](#). Developed research software for use by other group members.
- Participated in preparation of grant proposals and reports.
- Substitute lecturer for the graduate courses “Introduction to Artificial Neural Systems” and “Introduction to VLSI Systems.”
- Performed peer article reviews for scientific journals and conferences.

1993–1994, [Technical University of Gdansk](#), Gdansk, Poland

Instructor and Research Assistant

- Worked on research team for the project “Development of Immitance Visualization Methods for Impedance Computer Mammography” supported by a National Research Committee grant. Developed mammograph control and image reconstruction software.

- Taught a one-semester course entitled “Applications of Computers.”

1993–1994, Technical University of Gdansk, Gdansk, Poland

Unix System Administrator

- Installed and administered Sun Solaris server workstation. Designed and installed a network connecting the server with several PCs running Linux and Windows.

1993, **Lex S.A.**, Gdansk, Poland

Database Programmer

- Designed and implemented an auditing system for the collection, analysis, and reporting of phone usage data retrieved from a PBX. Developed a custom database program in Borland Paradox.

VOLUNTARY WORK EXPERIENCE

1998–Present, IEEE Neural Network Council, USA

Neural Network Council Web Page Editor

- Maintained the NNC web site (<http://www.ieee.org/nnc/>). Designed and implemented a new layout. Cooperated with journal editors and IEEE officers to provide current information and announcements. Presented progress reports at NNC meetings.

1996–1998, University of Louisville, Louisville, KY

Unix System Administrator

- Planned the purchase and installation of equipment for the Computational Intelligence Laboratory. Configured, maintained, and administered a network of four SGI IRIX workstations, several PCs, and peripherals. Installed and maintained free and commercial software packages.
- Provided technical support as well as instruction in Unix and programming to research colleagues and students.
- Assisted in the administration of a 16-processor SGI Onyx 10000 supercomputer facility and the Speed Scientific School’s HP-UX cluster.

AWARDS AND SCHOLARSHIPS

1999, 2000	Three Lexmark Inventorship Awards
1999	University of Louisville Graduate School Dean’s Citation
1999	Nomination for the John Richard Binford and Guy Stephenson Awards, University of Louisville
1994–1998	University of Louisville Doctoral Fellowship
1998	Travel Grant Award to the World Congress on Computational Intelligence, Anchorage, AK
1997	Travel Grant Award to the International Joint Conference on Neural Networks, Houston, TX
1997	Award for the paper at the IEEE Aerospace Conference, Snowmass, CO
1994	Commemorative Medal of the Technical University of Gdansk
1992–1994	Scholarship of the Minister of Education of Poland , awarded twice
1992	Honorary Award for Outstanding Student Results awarded by the foundation “Primus Inter Pares” in Warsaw
1990–1994	The President of the Technical University of Gdansk Outstanding Student Award , awarded each semester
1989	Commemorative Medal of the Sklodowska-Curie High School
1989	Laureate of the XL Polish Mathematical Olympiad ; guaranteed unconditional admission to any national university
1989	Reserve team member for the XII Austrian–Polish Mathematical Competition
1989	Finalist of the XXXV Polish Chemical Olympiad
1989	Winner of the regional stage of the XXXVIII Polish Physical Olympiad

MEMBERSHIPS

- Society for Imaging Science and Technology (IS&T)
- Institute of Electrical and Electronic Engineering (IEEE), since 1994
- Association for Computing Machinery (ACM)
- Administrative Committee, IEEE Neural Network Council

- Neural Networks Technical Committee, IEEE Neural Network Council
- Polish Neural Networks Society
- TeX Users Group (GUST)

PUBLICATIONS

- [P-1] T. J. Cholewo, M. Kocikowski, and A. Nowakowski, “Image reconstruction for computer impedance mammography,” in *Proceedings of the Second National Conference on Mechatronics*, (Warsaw), pp. 169–174, September 1994. (In Polish). [PDF](#).
- [P-2] A. Malinowski, T. J. Cholewo, and J. M. Zurada, “Capabilities and limitations of feedforward neural networks with multilevel neurons,” in *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS)*, vol. 1, (Seattle, Wash., USA), pp. 131–134, April 1995. [PDF](#).
- [P-3] A. Lozowski, T. J. Cholewo, and J. M. Zurada, “Symbolic rule representation in neural network models,” in *Proceedings of the Second Conference on Neural Networks and Their Applications*, vol. 2, (Szczyrk, Poland), pp. 300–305, April 1996. [PDF](#).
- [P-4] A. Malinowski, T. J. Cholewo, J. M. Zurada, and P. B. Aronhime, “Inverse mapping with neural network for control of nonlinear systems,” in *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS)*, vol. 3, (Atlanta, Ga.), pp. 453–456, May 1996. [PDF](#).
- [P-5] A. Lozowski, T. J. Cholewo, and J. M. Zurada, “Crisp rule extraction from perceptron network classifiers,” in *Proceedings of the IEEE International Conference on Neural Networks*, vol. “Plenary, Panel and Special Sessions”, (Washington, D.C., USA), pp. 94–99, June 1996. [PDF](#).
- [P-6] A. Lozowski, T. J. Cholewo, S. Jankowski, and M. Tworek, “Chaotic cellular neural network for image segmentation,” in *Proceedings of the 4th IEEE International Workshop on Cellular Neural Networks and Applications (CNNA)*, (Seville, Spain), pp. 219–223, June 1996. [PDF](#).
- [P-7] T. J. Cholewo and J. M. Zurada, “Neural network tools for stellar light prediction,” in *Proceedings of the IEEE Aerospace Conference*, vol. 3, (Snowmass, Colo., USA), pp. 415–422, February 1997. [PDF](#).
- [P-8] T. J. Cholewo and J. M. Zurada, “Sequential network construction for time series prediction,” in *Proceedings of the IEEE International Joint Conference on Neural Networks*, (Houston, Texas, USA), pp. 2034–2039, June 1997. [PDF](#).
- [P-9] T. J. Cholewo, J. M. Zurada, and A. Cichocki, “Exact gradient calculation in gamma neural networks,” in *Proceedings of the International Symposium on Nonlinear Theory and its Applications (NOLTA)*, vol. 2, (Honolulu, Hawaii, USA), pp. 767–770, November 1997. [PDF](#).
- [P-10] T. J. Cholewo and J. M. Zurada, “Exact Hessian calculation in feedforward FIR neural networks,” in *Proceedings of the IEEE International Joint Conference on Neural Networks*, vol. 2, (Anchorage, Alaska, USA), pp. 1074–1077, May 1998. [PDF](#).
- [P-11] T. J. Cholewo and J. M. Zurada, “Second order derivatives in dynamic neural networks,” in *Proceedings of the 5th International Conference on Soft Computing and Information/Intelligent Systems*, (Iizuka, Fukuoka, Japan), pp. 179–182, October 1998. [PDF](#).
- [P-12] T. J. Cholewo, *Neural Networks with Dynamic Synapses for Time Series Prediction*. PhD thesis, University of Louisville, 1998.
- [P-13] T. J. Cholewo and S. Love, “Gamut boundary determination using alpha-shapes,” in *Proceedings of the 7th Color Imaging Conference*, (Scottsdale, Ariz.), pp. 200–204, November 1999. [PDF](#).
- [P-14] T. J. Cholewo, “Printer model inversion by constrained optimization,” in *Proceedings of the IS&T/SPIE’s 12th Annual Symposium, Electronic Imaging 2000: Science and Technology*, (San Jose, Calif.), pp. 349–357, January 2000. [PDF](#).
- [P-15] T. J. Cholewo, “Black replacement using lightness scaling,” in *Proceedings of the IS&T/SPIE’s 12th Annual Symposium, Electronic Imaging 2000: Science and Technology*, (San Jose, Calif.), pp. 323–328, January 2000. [PDF](#).

- [P-16] M. Turbek, S. Weed, T. J. Cholewo, B. Damon, and M. Lhamon, “Comparison of hexagonal and square dot centers for EP halftones,” in *Proceedings of the IS&T PICS: Image Processing, Image Quality, Image Capture Systems Conference*, (Portland, Ore.), pp. 321–325, March 2000. [PDF](#).
- [P-17] T. J. Cholewo, S. Weed, B. Cooper, and M. Lhamon, “Enhanced EP halftones with hexagonal dot packing,” in *Proceedings of the IS&T NIP16: International Conference on Digital Printing Technologies*, (Vancouver, Canada), pp. 708–713, October 2000. [PDF](#).
- [P-18] T. J. Cholewo, “Conversion between CMYK spaces preserving black separation,” in *Proceedings of the 8th Color Imaging Conference*, (Scottsdale, Ariz.), pp. 257–261, November 2000. [PDF](#).
- [P-19] A.-H. El-Kassas, T. J. Cholewo, and A. Elmaghraby, “Applications of neural networks in socio-economic modeling,” *Proceedings of the 16th International Conference on Computers and Their Applications (CATA-2001)*, March 2001.

INVENTIONS

Authored three patent applications and one invention disclosure.