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Professor of Electrical and Computer Engineering
Senior Member of the IEEE

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EDUCATION

Ph.D. Electrical Engineering, University of New Mexico, 1992
M.S. Electrical Engineering, University of New Mexico, 1989
M.S. Engineering Mechanics, University of New Mexico, 1987
One year graduate program study, Southeast University, 1984-1985
B.S.E, Southeast University, Nanjing, China, 1984

PROFESSIONAL EXPERIENCE

2021 - Present: Interim Chair and Professor of Electrical and Computer Engineering (Purdue University Northwest)
2016 - 2021: Professor of Electrical and Computer Engineering (Purdue University Northwest)
2014 - 2016: Professor of Electrical Engineering (Purdue University North Central)
2012 - 2014: Associate Professor of Electrical Engineering (Purdue University North Central)
8/2008 - 2012: Assistant Professor (Purdue University North Central)
2002 - 7/2008: Senior Professor (DeVry University, Atlanta, Georgia,
Chair of communications and signal processing sequence)
1999 - 2002: Professor (DeVry University, Atlanta, Georgia)
1997 - 1999: Associate Professor (DeVry University, Atlanta, Georgia)
IEEE Atlanta Student Chapter Counselor
1994 - 1997: Principal Engineer (Iterated Systems, Atlanta, Georgia)
1993 - 1994: Senior Software Engineer (American Laser Games, Albuquerque, New Mexico)
1992 - 1993: Research Associate (Department of EECE, University of New Mexico)

PROFESSIONAL SOCIETIES

Senior Member of IEEE since 2001

CURRENT PROFESSIONAL ACTIVITIES (2010-2021)

Associate Editor for International Journal of Modern Engineering (IJME)
Associate Editor for International Journal of Engineering Research & Innovation (IJERI)
Research Paper Reviewer:
IEEE Transactions on Signal Processing, IEEE Transactions on Signal Processing Letters,
IEEE Transactions on Audio, Speech, Language Processing, IEEE Transactions on Instrumentation
and Measurement, IEEE Transactions on Education,
Measurement

TEACHING INTERESTS

Basic circuit theory I & II, Analog and digital electronic circuits, Signals and systems
Feedback control systems and applications
Digital and adaptive signal processing, and image and video processing
Digital and adaptive control systems, Robotics and system modeling

Teaching

Graduate Courses Taught:

ECE 53800 Digital Signal Processing I (s2020, s2021)

ECE 56801 Digital Control Systems (s2018, s2019, s2020)
ECE 59500 Adaptive Signal Processing with Applications/independent study (sum2017)
ECE 59500 Computer Vision for Engineering Applications/ independent study (s2019)
ECE 59500 Machine Learning with Robotic applications (f2019)
ECE 69800 Thesis

Undergraduate Courses Taught:

ENGR 19000 Elementary Engineering Design (f2016, f2017, f2018)
ECE 20100 Linear Circuit Analysis I (sum2016)
ECE 20200 Linear Circuit Analysis II (s2012, s2013)
ECE 25500/ ECE 27500 Introduction to Electronic Analysis and Design/Analog and Digital Electronics (s2017, s2018, s2019)
ECE 26400 Advanced C Programming (f2012)
ECE 27000 Introduction to Digital System Design (s2012, s2014, s2015, s2016)
ECE 30100 Signals and Systems (f2012, f2013, f2014, f2015, f2016, f2017, f2018, f2020, f2021)
ECE 30001 Signals and Systems Laboratory (f2012, f2013, f2014, f2015, f2020, s2021)
ECE 32100 Electromechanical Motion Devices (f2012, f2014, f2015)
ECE 32300 Electromechanical Motion Device Laboratory (f2012, f2014, f2015)
ME 37600 System Modeling and Analysis (s2011, s2012, s2013, s2014, s2015, s2016, s2017)
ECE 38200/ECE 38400 Feedback System Analysis and Design/Linear Control Systems (s2011, s2012, s2013, s2014, s2015, s2016, s2017, s2018, s2019, s2021)
ECE 30800 System Simulation and Control Laboratory (s2011, s2012, s2013, s2014, s2015, s2016, s2017)
ECE 36200 Microprocessor Systems and Interfacing (s2013)
ECE 40200 Electrical Engineering Design Projects (f2013, f2014, f2015, f2016)
ECE 42900 Senior Design I (f2017, f2019, f2020)
ECE 43900 Senior Design II (s2018, s2021)
ECE 43800 Digital Signal Processing with Applications (s2014, f2014, f2015, f2016, f2017, f2018, f2019)
ME 45700 Mechanical Vibration Analysis (f2011)
ECE 48300 Digital Control System Analysis and Design (f2013, s2015, s2016, s2017, s2018, s2019, s2020)
ENGR 49900 Real-Time Digital Signal Processing (s2014)
ENGR 49900 Undergraduate Research (s2014)

RESEARCH INTERESTS

Digital and adaptive signal processing, Control systems and robotics
Computer vision and machine learning
Signal processing for mechanical systems
Active noise control

PUBLISHED BOOKS:

1. Lizhe Tan, Jean Jiang, Digital Signal Processing: Fundamentals and Applications. Third Edition, Elsevier Publishing/Academic Press, 2018.
2. Li Tan, Jean Jiang, Digital Signal Processing: Fundamentals and Applications. Second Edition, Elsevier Publishing/Academic Press, 2013.
3. Li Tan, Digital Signal Processing: Fundamentals and Applications. Elsevier publishing/Academic Press, 2008, Reprint 2011.
4. Li Tan, Jean Jiang, Analog Signal Processing and Filter Design. Second Edition, Linus Publications, 2016.
5. Li Tan, Jean Jiang, Analog Signal Processing and Filter Design. Linus Publications, 2009.

JOURNAL PUBLICATIONS:

1. A. Lendek, L. Tan, "Mitigation of derivative kick using time-varying fractional-order PID control," *IEEE Access*, vol. 9, pp. 55974-55987, April 2021.
2. J. Chen, J. Jiang, X. Guo, L. Tan, "An efficient CNN with tunable input-size for bearing fault diagnosis," *International Journal of Computational Intelligence Systems*, vol. 14, no. 1, pp. 625-634, 2021.
3. J. Chen, J. Jiang, X. Guo, L. Tan, "A self-Adaptive CNN with PSO for bearing fault diagnosis," *Systems Science & Control Engineering*, vol. 8, no. 1, pp. 11-22, 2021.
4. J. Chen, J. Jiang, X. Guo, L. Tan, "Bit-error aware lossless image compression with 2D-layer-block coding," *Journal of Sensors*, vol. 2021, November, 2021.
5. X. Peng, J. Jiang, L. Tan, J. Hou, "2-D bi-level block coding for color image compression and transmission with bit-error awareness," *IEEE Access*, vol. 8, pp. 110093-110102, June, 2020.
6. J. Jiang, V. Vijayarajan, L. Tan, "Channel sparsity aware function expansion filters using the RLS algorithm for nonlinear acoustic echo cancellation," *IEEE Access*, vol. 8, pp. 118305-118314, July 2020.
7. Y. Yang, H. H. Zhang, W. Yu, L. Tan, "Optimal design of discrete-time fractional-order PID controller for idle speed control of an IC engine," *International Journal of Powertrains*, vol. 9, nos. 1/2, pp. 79-97, 2020.
8. X. Guo, J. Jiang, J. Chen, S. Du, L. Tan, "BIBO-stable implementation of adaptive function expansion bilinear filter for nonlinear active noise control," *Applied Acoustics*, vol. 168, 107407, November 2020, Elsevier.
9. C. Dong, Y. Ding, L. Tan, S. Du, Y. Ding, X. Guo, "Diagonal-structure adaptive bilinear filters for multichannel active noise control of nonlinear noise processes," *Mechanical Systems and Signal Processing*, vol. 143, September 2020, 106703, Elsevier.
10. X. Guo, J. Jiang, L. Tan, S. Du, "Improved adaptive recursive even mirror Fourier nonlinear filter for nonlinear active noise control," *Applied Acoustics*, vol. 146, pp. 310-319, March 2019, Elsevier.
11. X. Guo, Y. Li, J. Jiang, C. Dong, S. Du, L. Tan, "Adaptive function expansion 3-D diagonal-structure bilinear filter for active noise control of saturation nonlinearity," *IEEE Access*, vol. 6, pp. 65139-65150, October 2018.
12. X. Guo, Y. Li, J. Jiang, C. Dong, S. Du, L. Tan, "Sparse modeling of nonlinear secondary path for nonlinear active noise control," *IEEE Transactions on Instrumentation and Measurement*, vol. 67, no. 3, pp. 482-496, March 2018.
13. J. Jiang, L. Tan, "Real-time data collection and processing in open-loop and closed-loop systems", *Technology Interface International Journal*, vol. 17, no. 2, pp. 21-26, May 2017.
14. L. Tan, C. Dong, S. Du, "On Implementation of adaptive bilinear filters for nonlinear active noise control," *Applied Acoustics*, vol. 106, pp. 122-128, Jan. 2016, Elsevier.
15. J. Li, J. Zhai, L. Tan, "Epistemic uncertainty effects on calibrating resistance factors from static top-down loaded tests of drilled shafts installed in sands," *International Journal of Engineering Research & Innovation*, vol. 8, no. 2, pp. 106-112, 2016.
16. L. Tan, J. Jiang, "Active control of impulsive noise using a nonlinear companding function," *Mechanical Systems and Signal Processing*, vol. 58-59, pp. 29-40, June 2015, Elsevier.
17. L. Tan, J. Jiang, "Simplified Gradient Adaptive Harmonic IIR Notch Filter for Frequency Estimation and Tracking," *American Journal of Signal Processing*, vol.5, no.1, pp. 6-12, 2015.
18. L. Tan, J. Jiang, L. Wang, "Multirate Processing Technique for Obtaining Integer and Fractional Order Derivatives of Low-Frequency Signals," *IEEE Transactions on Instrumentation and Measurement*, vol. 63, no. 4, pp. 904-912, April 2014.
19. L. Tan, J. Jiang, L. Wang, "Adaptive harmonic IIR notch filter with varying notch bandwidth and convergence factor," *Journal of Communication and Computer*, vol. 11, pp. 484-491, 2014.
20. L. Tan, J. Jiang, L. Wang, "Adaptive diagonal-channel bilinear filters for nonlinear active noise control," *International Journal of Control Science and Engineering*, vol.4, no.2, pp. 27-35, 2014.
21. L. Tan, A. Mussa, J. Poling, K. Justice, H. Xu, "Rotational machine fault detection with ensemble empirical mode decomposition based on a three orthogonal channel sensor," *International Journal of Engineering Research and Innovation*, vol. 6, no. 2, pp. 33-40, Fall/Winter 2014.
22. L. Tan, J. Jiang, L. Wang, "Pole Radius Varying IIR Notch Filter with Transient Suppression," *IEEE*

- Transactions on Instrumentation and Measurement, vol. 61, no. 6, pp. 1684-1691, June 2012.
23. L. Wang, L. Tan, L. An, Z. Wu, L. Li, "Study of the ESP system based on fuzzy logic PID control and multi-body dynamics," *Journal of Electrical Systems*, vol. 8, no. 1, pp. 57-75, March 2012.
 24. L. Tan, L. Wang, "Oversampling technique for obtaining higher-order derivative of low-frequency signals," *IEEE Transactions on Instrumentation and Measurement*, vol. 60, no. 11, pp. 3677-3684, November 2011.
 25. L. Tan, J. Jiang, L. Wang, "Simple recursion for designing higher-order FIR digital differentiators," *Journal of Communication and Computer*, vol. 8, no. 10, pp. 899-902, October 2011.
 26. L. Tan, L. Wang, "Bit-error aware lossless image compression," *International Journal of Modern Engineering*, vol. 11, no. 2, pp. 54-59, Spring/Summer 2011.
 27. L. Tan, J. Jiang, Y. Zhang, "Bit-error aware lossless compression of waveform data," *IEEE Signal Processing Letters*, vol. 17, no. 6, pp. 547-550, June 2010.
 28. L. Tan, J. Jiang, "Novel adaptive IIR notch filter for frequency estimation and tracking," *IEEE Signal Processing Magazine*, November Issue, pp. 168-189, November 2009.
 29. L. Tan, J. Jiang, "Active noise control using the filtered-X RLS algorithm with sequential updates," *Journal of Communication and Computer*, vol. 6, no. 5, pp. 9-14, May 2009.
 30. L. Tan, J. Jiang, "Real-time frequency tracking using novel adaptive harmonic IIR notch filter," *the Technology Interface Journal*, vol. 9, no. 2, Spring 2009.
 31. L. Tan, J. Jiang, "Active Noise Control Using the Filtered-X RLS Algorithm with Sequential Updates," *International Journal of Modern Engineering*, vol. 9, no. 2, pp. 29-34, Spring/Summer 2009.
 32. L. Tan, J. Jiang, "A bi-level block coding technique for encoding data sequences with sparse distributions," *the Technology Interface Journal (selected from IAJC-IJME International Conference)*, vol. 9, no. 1, Fall 2008.
 33. L. Tan, J. Jiang, "A simple DSP project for teaching real-time signal rate conversions," *the Technology Interface Journal*, vol. 9, no. 1, Fall 2008.
 34. L. Tan, J. Jiang, "Adaptive Volterra filters for active control of nonlinear noise processes," *IEEE Transactions on Signal Processing*, vol. 49, no. 8, pp. 1667-1676, August 2001.
 35. L. Tan, J. Jiang, "An adaptive technique for modeling second-order Volterra systems with sparse kernels," *IEEE Transactions on Circuits and Systems II: Analog and Digital Signal Processing*, vol. 45, no. 12, pp. 1610-1615, December 1998.
 36. L. Tan, J. Jiang, "Filtered-X second-order Volterra adaptive algorithms," *IEE Electronics Letters*, vol. 33, no. 8, pp. 671-672, April 1997.
 37. L. Tan, J. Jiang, "Adaptive second-order Volterra delay filter," *IEE Electronics Letters*, vol. 32, no. 9, pp. 807-809, April 1996.
 38. M. Wang, L. Tan, "Stochastic technique for analyzing shallow-buried reinforced concrete box-type structure," *Journal of Soil Dynamics and Earthquake Engineering*, vol. 14, pp. 279-287, 1995, Elsevier.
 39. L. Tan, "Theory and Techniques for lossless Waveform Data Compression," Ph.D. Dissertation Abstracts, *IEEE Signal Processing Magazine*, pp. 56-58, October 1993.
 40. S. D. Stearns, L. Tan, and N. Magotra, "Lossless compression of waveform data for efficient transmission and storage," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 31, no. 3, pp. 645-654, May 1993.
 41. S. D. Stearns, L. Tan, and N. Magotra, "A bi-level coding technique for compressing broadband residue sequences," *Digital Signal Processing*, vol. 2, no. 3, pp. 146-156, July 1992, Elsevier.
 42. M. Wang, J. Ross, L. Tan and J. Macy, "Fracture study of quasi-brittle material using a fast-scanning electron microscopy," *Journal of Experimental Techniques*, pp. 29-36, January/February 1992.

REFERRED CONFERENCE PROCEEDINGS:

1. Y. Cai, L. Tan, J. Chen, "Evaluation of deep learning neural networks with input processing for bearing fault diagnosis," 2021 IEEE International Conference on Electro/Information Technology, pp. 140-145, Mt. Pleasant, MI, May 2021.
2. Y. Song, Y. Cai, L. Tan, "Video-audio emotion recognition based on feature fusion deep learning method," 2021 IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), pp. 611-616, Lansing, MI, August 2021.
3. Luo, Y. Zhang, L. Tan, "Multi-level random sample consensus method for improving structured light vision systems," 2020 IEEE 11th Ubiquitous Computing, Electronics and Mobile

- Communication Conference (UEMCON 2020), pp. 577-582, New York, October 2020.
4. Y. Zhang, Z. Luo, J. Hou, L. Tan, X. Guo, "Computer vision techniques for improving structured light vision systems," 2020 IEEE International Conference on Electro/Information Technology, Northern Illinois University, pp. 437-442, Naperville, Illinois, July 2020.
 5. J. Dai, Y. Zhang, J. Hou, X. Wang, L. Tan, and J. Jiang, "Sparse wavelet decomposition and filter banks with CNN deep learning for speech recognition," 2019 IEEE International Conference on Electro/Information Technology, pp. 98-103, Brookings, South Dakota, May 2019.
 6. X. Peng, J. Hou, L. Tan, J. Chen, J. Jiang, and X. Guo, "Bit-error aware lossless color image compression," 2019 IEEE International Conference on Electro/Information Technology, pp. 126-131, Brookings, South Dakota, May 2019.
 7. X. Guo, J. Jiang, J. Chen, L. Tan, S. Du, "Convex combination recursive even mirror Fourier nonlinear filter for nonlinear active noise control," The 22nd International Conference on Electrical Machines and Systems, Harbin, China, August, 2019.
 8. X. Guo, J. Jiang, L. Tan, S. Du, "Efficient implementation of Volterra diagonal bilinear filter for nonlinear active noise control," presented. IEEE Canadian Conference on Electrical and Computer Engineering, Edmonton, Canada, May, 2019.
 9. V. Vijayarajan, J. Dai, L. Tan, J. Jiang, "Channel sparsity-aware diagonal structure Volterra filters for nonlinear acoustic echo cancellation," 2018 IEEE International Conference on Electro/Information Technology, pp. 420-423, Oakland University, Rochester, Michigan, May 2018.
 10. J. Dai, V. Vijayarajan, X. Peng, L. Tan, J. Jiang, "Speech recognition using sparse discrete wavelet decomposition feature extraction," 2018 IEEE International Conference on Electro/Information Technology, pp. 812-816, Oakland University, Rochester, Michigan, May 2018.
 11. J. Jiang, R. Brewer Jr., R. Jakubowski, L. Tan, "Development of a piano frequency detecting system using the Goertzel algorithm," 2018 IEEE International Conference on Electro/Information Technology, pp. 346-349, Oakland University, Rochester, Michigan, May 2018.
 12. Y. Xu, J. Shaull, T. Bavar, L. Tan, "Smart coffee roaster design with connected devices", 2018 IEEE International Conference on Consumer Electronics (ICCE), presented, Las Vegas, NV, Jan. 2018.
 13. L. Tan, V. Vijayarajan, N. Chimitt, J. Jiang, A. Togbe, "Channel sparsity-aware recursive least squares algorithms for nonlinear system modeling and active noise control," 2017 IEEE 8th Ubiquitous Computing, Electronics and Mobile Communication Conference (UEMCON 2017), pp. 225-231, Columbia University, New York City, NY, October 2017.
 14. M. Li, H. H. Zhang, L. Tan, W. Yu, "Self-powered height sensor with ZigBee networks for intelligent systems", pp. 410-441, ISI Global, December 2017.
 15. J. Jiang, A. McCoy, E. Lee, L. Tan, "Development of a motion controlled robotic arm," 2017 IEEE 8th Ubiquitous Computing, Electronics and Mobile Communication Conference (UEMCON 2017), pp. 145-149, Columbia University, New York City, NY, October 2017.
 16. J. Jiang, D. Seniff, D. Callahan, L. Tan, Y. Lee, "Development of a radiation detecting rover system," 2017 IEEE 8th Ubiquitous Computing, Electronics and Mobile Communication Conference (UEMCON 2017), pp. 150-152, Columbia University, New York City, NY, October 2017.
 17. N. Chimitt, W. Misch, L. Tan, A. Togbe, J. Jiang, "Comparative study of simple feature extraction for single-channel EEG based classification," 2017 IEEE International Conference on Electro/Information Technology, pp. 166-170, University of Nebraska, Lincoln, Nebraska, May 2017.
 18. C. Dong, X. Guo, L. Tan, S. Du, "Efficient adaptive bilinear filters for nonlinear active noise control," 10th International Conference on Signal Processing and Communication Systems, ICSPCS'2016, Gold Coast, Australia, December, 2016.
 19. X. Guo, C. Dong, L. Tan, S. Du, "Adaptive even mirror Fourier filtered error LMS algorithm for multichannel nonlinear active noise control," The 7th IEEE Annual Information Technology, Electronics and Mobile Communication Conference, University of British Columbia, Vancouver, Canada, October 2016.
 20. J. Jiang, L. Tan, "Real-time data collections and processing in open-loop and closed-loop systems," 5th IAJC/ISAM Joint International Conference, November, 2016.
 21. L. Li, L. Tan, "Epistemic uncertainty effects on resistance factors calibrated from FHWA drilled shafts in sands static top-down tests," 5th IAJC/ISAM Joint International Conference, November,

2016.

22. C. Dong, Y. Ding, L. Tan, S. Du, "Multichannel active control of nonlinear noise processes using diagonal structure bilinear FXLMS algorithm," Proc. SPIE, Eighth International Conference on Machine Vision, Vol. 9875, Barcelona, Spain, November 2015.
23. L. Tan, H. Zhang, J. Jiang, "A complex adaptive harmonic IIR notch filter," 2015 IEEE International Conference on Electro/Information Technology, pp. 107-111, Northern Illinois University, Naperville, Illinois, May 2015.
24. L. Tan, A. Mussa, J. Poling, K. Justice, H. Xu, "Rotational machine fault detection with ensemble empirical mode decomposition based on a three orthogonal channel Sensor," the 4th IAJC/ISAM Joint International Conference, Orlando, Florida, September 2014.
25. L. Tan, J. Jiang, "Nonlinear active noise control using diagonal-channel LMS and RLS bilinear filters," IEEE 57th International Midwest Symposium on Circuits & Systems, pp.789-792, College Station, Texas, August 2014.
26. L. Tan, J. Jiang, L. Wang, "Obtaining higher-order derivatives of low-frequency signals using multi-rate signal processing," IEEE International Instrumentation and Measurement Technology Conference, pp.1277-1282, Minneapolis, MN, May 2013.
27. L. Tan, J. Jiang, "Teaching system modeling and feedback control systems: A Multidisciplinary Course in Mechanical Engineering and Electrical Engineering," 2013 Proceedings of the American Society for Engineering Education, Atlanta, Georgia, June 2013.
28. J. Jiang, L. Tan, "Teaching speech and audio processing implementations using LabView program and DAQ Boards," 2013 Proceedings of the American Society for Engineering Education, Atlanta, Georgia, June 2013.
29. J. Jiang, L. Tan, "Teaching adaptive filters and applications in electrical and computer engineering technology program," (Best paper award), 2012 Proceedings of the American Society for Engineering Education, San Antonio, Texas, June 2012.
30. L. Tan, L. Wang, "Bit-error aware lossless image compression," 2011 IAJC/ASEE (International Association of Journals and Conferences; American Society of Engineering Education) Joint International Conference on Engineering and Related Technologies, Hartford, CT, April 2011.
31. Q. Wang, L. Wang, L. Tan, "Automotive vehicle powertrain mounting system optimum design and simulation analysis," 2011 IAJC/ASEE (International Association of Journals and Conferences; American Society of Engineering Education) Joint International Conference on Engineering and Related Technologies, Hartford, CT, April 2011.
32. L. Tan, J. Jiang, "Teaching digital filter implementations using the 68HC12 microcontroller," 2011 Proceedings of the American Society for Engineering Education, Vancouver, Canada, June 2011.
33. L. Wang, L. An, L. Tan, Z. Wu, L. Li, "The development of ESP control system based on the fuzzy-PID control strategy," Applied Mechanics and Materials, 130-134, 1907, October 2011.
34. L. Tan, "Experiences of teaching computer game and multimedia sequence courses in the Electrical and Computer Engineering Technology Program," 2011 Proceedings of the American Society for Engineering Education, Vancouver, Canada, June 2011.
35. L. Tan, "Adaptive function expansion RLS filters with dynamic selection of channel updates for nonlinear active noise control," 2010 International Conference on Intelligent Control and Information Processing, vol. 2, pp.1-6, Dalian, China, August 2010.
36. L. Tan, J. Jiang, "Adaptive second-order Volterra RLS algorithms with dynamic selection of channel updates," 2010 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, pp.1323-1328, Montreal, Canada, July 2010.
37. L. Tan, J. Jiang, "Improving digital signal processing course with real-time processing experiences for electrical and computer engineering technology students," 2010 Proceedings of the American Society for Engineering Education, Louisville, Kentucky, June 2010.
38. J. Jiang, L. Tan, "Teaching Laplace circuits and system analysis with various engineering applications in mechanical engineering program," 2010 Proceedings of the American Society for Engineering Education, Louisville, Kentucky, June 2010.
39. L. Tan, J. Jiang, "Teaching advanced digital signal processing with multimedia applications in engineering technology programs," 2009 Proceedings of the American Society for Engineering Education, Austin, Texas, June 2009.
40. Education, Austin, Texas, June 2009.
41. L. Tan, J. Jiang, "Adaptive second-order Volterra filtered-x RLS algorithms with sequential and partial updates for nonlinear active noise control," IEEE 4th International Conference on Industrial

Electronics and Applications, pp.1625-1630, Xi'an, China, May 2009.

42. L. Tan, J. Jiang, "A bi-level block coding technique for encoding data sequences with sparse distributions," IAJC-IJME (International Association of Journals and Conferences; International Journal of Modern Engineering) International Conference, November 2008.
43. L. Tan, J. Jiang, "System modeling using a second-order Volterra delay filter," IEEE 39th Midwest Symposium on Circuits and Systems, pp. 1276-1279, August 1996.
44. N. Magotra, J. W. McCoy, L. Tan, and J. Jiang, "An integrated real time seismic signal processor," IEEE 26th Asilomar Conference on Signals, Systems and Computers, pp. 304-308, California, October 1992.
45. S. D. Stearns, L. Tan, and N. Magotra, "A technique for lossless compression of seismic data," IEEE International Geoscience and Remote Sensing Symposium, Vol. 1, pp. 681-683, May 1992.
46. N. Magotra, J. Jiang, D. Hush, and L. Tan, "Seismic phase detection and discrimination using adaptive filter coefficients," IEEE 25th Asilomar Conference on Signals, Systems and Computers, pp. 659-662, California, November 1991.
47. M. Wang, L. Tan, "Stochastic analysis of shallow-buried reinforced concrete box-type structure," SEM Spring Conference, pp. 148-154, Albuquerque, New Mexico, May 1990.
48. M. Wang, L. Tan, and T. Kreitinger, "Structural system identification using an adaptive transversal filter," SEM Spring Conference, pp. 281-288, Boston, MA, May 1989.

PUBLISHED PATENTS:

1. S. Johnson, L. Tan, and J. Wu, System and Method for Modeling Discrete Data Sequences. U.S. patent No. 5,721,543, Feb. 1998.

PUBLISHED BOOK CHAPTERS:

1. H. Zhang, L. Tan, W. Yu, S. Meskour, Mechatronic System Design for a Solar Tracker. Chapter 30, Handbook of Research on Advancements in Robotics and Mechatronics, pp. 958-993, IGI Global, 2015.
2. L. Tan, J. Jiang, Novel Adaptive IIR Notch Filters for Frequency Estimation and Tracking. Chapter 20 in Streamlining Digital Signal Processing: A Tricks of the Trade Guidebook, pp. 197-205, Editor: Richard G. Lyons, IEEE Press/ Wiley & Sons, 2012. ISBN: 978-1-118-27838-3.
3. L. Tan, J. Jiang, L. Wang, Adaptive Harmonic IIR Notch Filters for Frequency Estimation and Tracking. Chapter 13 in Adaptive Filtering, pp. 313-332, InTech, 2011. ISBN: 978-953-307-158-9.
4. L. Tan, DSP Processors and Fixed-Point Arithmetic. Chapter 8, Digital Signal Processing World Class Designs, pp. 329-378, Editor: Kenton Williston, Newnes/Elsevier, 2009. ISBN: 978-1-85671-623-1.
5. L. Tan, "Multirate DSP, Part 4: Bandpass Undersampling," Designlines Automotive, EE Times, May 2008, http://www.eetimes.com/document.asp?doc_id=1275568.
6. L. Tan, "Multirate DSP, Part 3: ADC Oversampling," Designlines Automotive, EE Times, May 2008, http://www.eetimes.com/document.asp?doc_id=1275562.
7. L. Tan, "Multirate DSP, Part 2: Noninteger Sampling Factors," Designlines Automotive, EE Times, April 2008, http://www.eetimes.com/document.asp?doc_id=1275559.
8. L. Tan, "Multirate DSP, Part 1: Upsampling and Downsampling," Designlines Automotive, EE Times, April 2008, http://www.eetimes.com/document.asp?doc_id=1275556.
9. G. Mandyam, N. Magotra, S. D. Stearns, L. Tan, Wes McCoy, Lossless Waveform Compression, in Chapter 6, Measurement System Architecture, Industrial Electronics Handbook, CRC press, 1997 (J. D. Irwin, ed).

PUBLISHED VIDEO GAME SOFTWARE TITLES

1. L. Tan (lead software engineer), "Who shot Johnny Rock?" PC Platform, Copyright 1993, American Laser Games, Inc., manufactured and distributed by IBM.
2. L. Tan (lead software engineer), "Mad Dog II - the Lost Gold" PC Platform, Copyright 1994, American Laser Games, Inc. manufactured and distributed by IBM.
3. L. Tan (lead software engineer), "Crime Patrol" Sega CD Platform, Licensed by SEGA Enterprises, LTD, 1994.

SUPERVISION OF THESIS AND DISSERTATION

1. Supervisor: Yuanyang Cai, Bearing Fault Diagnosis Using Deep Learning Neural Networks with Input Processing. M.S. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, December 2021.
2. Supervisor: Yanan Song, Feature Fusion Deep Learning Method for Video and Audio based Emotion Recognition. M.S. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, December 2021.
3. Supervisor: Attila Lendek, Time-Varying Fractional-Order PID Control for Migration of Derivative Kick. M.S. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, May 2021.
4. Supervisor: Zhangkun Luo, Structured Light Vision Systems Using a Robust Laser Stripe Segmentation Method. M.S. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, May 2021.
5. Supervisor: Yaan Zhang, Improving Structured Light Systems Using Computer Vision Techniques. M.S. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, May 2020.
6. Supervisor: Xuan Peng, Lossless Color Image Compression with Bit-Error Awareness. M.S. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, December 2019.
7. Supervisor: Shihao Yu, Object Detection in Deep Learning for Prostate Localization. M.S. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, December 2019.
8. Ph.D. Dissertation Co-supervisor: Xinnian Guo, Theory and Methods of Nonlinear Active Noise Control Using New Filters and Secondary Path modeling, Nanjing University, August 2019.
9. Supervisor: Jingzhao Dai, Sparse Discrete Wavelet Decomposition and Filter Bank Techniques for Speech Recognition. MS. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, May 2019.
10. Supervisor: Vinith Vijayarajan, Channel Sparsity-Aware Polynomial Expansion Filters for Nonlinear Acoustic Echo Cancellation. MS. Thesis, Department of Electrical and Computer Engineering, Purdue University Northwest, December 2018.