

Dr. Jie SHEN
University of Michigan - Dearborn, USA
Selected Scholarly Contributions SCOPUS

Greenleaf, M.P., Shen, J., Yoon, D., Chen, H.

[Local-global image binarization for reconstructing the cellular structure of polymer foam materials](#)

(2013) Computer-Aided Design and Applications, 10 (6), pp. 919-928.

Shen, J., Yoon, D.

[Advances and prospects of digital metrology](#)

(2012) Computer-Aided Design and Applications, 9 (6), pp. 825-835.

Yoon, D., Narduzzi, M., Shen, J.

[Computing rotation minimizing frames using quaternions](#)

(2012) Computer-Aided Design and Applications, 9 (5), pp. 679-690.

Song, Y., Jin, S., Shen, J.

[A unique property of single-link distance and its application in data clustering](#)

(2011) Data and Knowledge Engineering, 70 (11), pp. 984-1003.

Chow, C.L., Mao, J., Shen, J.

[Nonlocal damage gradient model for fracture characterization of aluminum alloy](#)

(2011) International Journal of Damage Mechanics, 20 (7), pp. 1073-1093.

Shen, J., Diego, V., Yoon, D.

[Removal of surface artifacts of material volume data with defects](#)

(2011) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 6783 LNCS (PART 2), pp. 624-634.

Shen, J., Yoon, D., Zhao, D., Song, Y.

[Denoising of two-dimensional geometric discontinuities](#)

(2010) International Journal of Computers and Applications, 32 (2), pp. 129-140.

Shen, J., Mao, J., Reyes, G., Chow, C.L., Boileau, J., Su, X., Wells, J.M.
[A multiresolution transformation rule of material defects](#)
(2009) International Journal of Damage Mechanics, 18 (8), pp. 739-758.

Shen, J., Yoon, D., Shehu, D., Chang, S.-Y.
[Spectral moving removal of non-isolated surface outlier clusters](#)
(2009) CAD Computer Aided Design, 41 (4), pp. 256-267.

Yoon, D., Ohou, E., Shen, J., Shou, H.
[Extracting geometric features from Clouds of points using sweeping](#)
(2008) Computer-Aided Design and Applications, 5 (1-4), pp. 17-29.

Shi, Z.-J., Shen, J.
[Convergence of Liu-Storey conjugate gradient method](#)
(2007) European Journal of Operational Research, 182 (2), pp. 552-560.

Shen, J.
[Synthesization of edge noises for touch probe and laser sensor measurement](#)
(2007) Computer-Aided Design and Applications, 4 (1-6), pp. 247-256.

Shen, J., Yoon, D.
[A fast and accurate denoising algorithm for two-dimensional curves](#)
(2007) Computer-Aided Design and Applications, 4 (1-6), pp. 199-208.

Yoon, D., Shen, J., Ohou, E., Orady, E.
[Simulating multi-axis machining using NURBS and quaternions](#)
(2007) Computer-Aided Design and Applications, 4 (1-6), pp. 49-55.

Shi, Z.-J., Shen, J.
[Convergence of supermemory gradient method](#)
(2007) Journal of Applied Mathematics and Computing, 24 (1-2), pp. 367-376.

Shi, Z.-J., Shen, J.

[Convergence of the Polak-Ribière-Polyak conjugate gradient method](#)

(2007) Nonlinear Analysis, Theory, Methods and Applications, 66 (6), pp. 1428-1441.

Shi, Z.-J., Shen, J.

[Memory gradient method with Goldstein line search](#)

(2007) Computers and Mathematics with Applications, 53 (1), pp. 28-40.

Shi, Z.-J., Zhang, X.-S., Shen, J.

[Convergence analysis of adaptive trust region methods](#)

(2007) RAIRO - Operations Research, 41 (1), pp. 105-121.

Shi, Z.-J., Shen, J.

[A new class of supermemory gradient methods](#)

(2006) Applied Mathematics and Computation, 183 (2), pp. 748-760.

Shi, Z.-J., Shen, J.

[Convergence of PRP method with new nonmonotone line search](#)

(2006) Applied Mathematics and Computation, 181 (1), pp. 423-431.

Shi, Z.-J., Shen, J.

[Convergence of nonmonotone line search method](#)

(2006) Journal of Computational and Applied Mathematics, 193 (2), pp. 397-412.

Shou, H., Shen, J., Yoon, D.

[Robust plotting of polar algebraic curves, space algebraic curves, and offsets of planar algebraic curves](#)

(2006) Reliable Computing, 12 (4), pp. 323-335.

Shen, J., Yoon, D., Shou, H., Zhao, D.-M.

[A set of denoising algorithms for 2-D closed curves](#)

(2006) Computer-Aided Design and Applications, 3 (1-4), pp. 1-10.

Shi, Z.-J., Shen, J.

[On step-size estimation of line search methods](#)

(2006) Applied Mathematics and Computation, 173 (1), pp. 360-371.

Shi, Z.-J., Shen, J.

[On memory gradient method with trust region for unconstrained optimization](#)

(2006) Numerical Algorithms, 41 (2), pp. 173-196.

Shi, Z.-J., Shen, J.

[Convergence of descent method with new line search](#)

(2006) Journal of Applied Mathematics and Computing, 20 (1-2), pp. 239-254.

Huahao, S., Jie, S., Yoon, D.

[What order Taylor model is sufficient for subdivision based implicit curve plotting](#)

(2005) Proceedings - Ninth International Conference on Computer Aided Design and Computer Graphics, CAD/CG 2005, 2005, art. no. 1604607, pp. 10-15.

Shi, Z.-J., Shen, J.

[Convergence property and modifications of a memory gradient method](#)

(2005) Asia-Pacific Journal of Operational Research, 22 (4), pp. 463-477.

Shen, J., Maxim, B., Akingbehin, K.

[Accurate correction of surface noises of polygonal meshes](#)

(2005) International Journal for Numerical Methods in Engineering, 64 (12), pp. 1678-1698.

Shi, Z.J., Shen, J.

[New inexact line search method for unconstrained optimization](#)

(2005) Journal of Optimization Theory and Applications, 127 (2), pp. 425-446.

Shi, Z.-J., Shen, J.

[A new super-memory gradient method with curve search rule](#)

(2005) Applied Mathematics and Computation, 170 (1), pp. 1-16.

Yoon, D., Shen, J., Mohanty, P., Kantz, J.

[Application of sweeping techniques to reverse engineering](#)

(2005) International Journal of Modelling and Simulation, 25 (4), pp. 278-284.

Shi, Z.-J., Shen, J.

[Convergence of descent method without line search](#)

(2005) Applied Mathematics and Computation, 167 (1), pp. 94-107.

Shi, Z.-J., Shen, J.

[A new descent algorithm with curve search rule](#)

(2005) Applied Mathematics and Computation, 161 (3), pp. 753-768.

Shen, J., Yoon, D., Patel, N.

[A shape optimization scheme with coupling of parametric and freeform shape evolution](#)

(2004) Proceedings of the ASME Design Engineering Technical Conference, 4, art. no. 57664, pp. 141-146.

Shi, Z.-J., Shen, J.

[A gradient-related algorithm with inexact line searches](#)

(2004) Journal of Computational and Applied Mathematics, 171 (1-2), pp. 349-370.

Shen, J., Yoon, D.

[A freeform shape optimization of complex structures represented by arbitrary polygonal or polyhedral meshes](#)

(2004) International Journal for Numerical Methods in Engineering, 60 (15), pp. 2441-2466.

Shen, J., Yoon, D.

[A new scheme for efficient and direct shape optimization of complex structures represented by polygonal meshes](#)

(2003) International Journal for Numerical Methods in Engineering, 58 (14), pp. 2201-2223.

Shen, J.

[A parametrically-optimized morphing scheme of polygonal meshes](#)

(2003) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2669, pp. 931-940.

Shen, J., Yoon, D.

[Freeform shape optimization of regular quad meshes](#)

(2003) Structures and Materials, 13, pp. 221-230.

Shen, J.

[Feature-based optimization of beam structures represented by polygonal meshes](#)

(2003) Journal of Computing and Information Science in Engineering, 3 (3), pp. 243-249.

Shen, J., Yang, Y.-H.

[Deformable object modeling using the time-dependent finite element method](#)

(1998) Graphical Models and Image Processing, 60 (6), pp. 461-487.

Kushwaha, R.L., Shen, J.

[Investigation on Contact Mechanics between Soil and Metal©](#)

(1996) Tribology Transactions, 39 (1), pp. 187-193.

Qian, P., Schoenau, J.J., Greer, K.J., Liu, Z., Shen, J.

[Quick extraction and determination of potassium in fresh leaf sap and its use as a guide to potassium fertilization of canola, chickpea, and dwarf sunflower](#)

(1995) Communications in Soil Science and Plant Analysis, 26 (17-18), pp. 2903-2912.

Kushwaha, R.L., Shen, J.

[Finite element analysis of the dynamic interaction between soil and tillage tool](#)

(1995) Transactions of the American Society of Agricultural Engineers, 38 (5), pp. 1315-1319.

Shen, J., Kushwaha, R.L.

[Investigation of an algorithm for non-linear and dynamic problems in soil-machine systems](#)

(1995) Computers and Electronics in Agriculture, 13 (1), pp. 51-66.

Kushwaha, R.L., Shen, J.

[Numeric simulation of friction phenomenon at soil-tool interface](#)

(1995) Tribology Transactions, 38 (2), pp. 424-430.

Shen, J., Kushwaha, R.L.

[A non-linear and dynamic FEM software for machine-soil system](#)

(1994) SAE Technical Papers, .

Kushwaha, R.L., Shen, J., Linke, C.

[Prospects of high-speed tillage](#)

(1994) SAE Technical Papers, .

Shen, J., Kushwaha, R.L.

[Three-dimensional computer aided design of mechanical products](#)

(1993) SAE Technical Papers, .

Shen, J., Kushwaha, R.L.

[Quick finite element analysis of soil tool interactions](#)

(1993) Computers and Electronics in Agriculture, 9 (4), pp. 289-299.