

## References

- [1] E. T. Jaynes. Where do we stand on maximum entropy? *The Maximum Entropy Formalism*, pp. 15–118. MIT Press, 1979.
- [2] H. Wendland. *Scattered Data Approximation*. Cambridge University Press, Cambridge, UK, 2005.
- [3] P. Lancaster and K. Salkauskas. Surfaces generated by moving least squares methods. *Mathematics of Computation* 37:141–158, 1981.
- [4] D. Levin. The approximation power of moving least-squares. *Mathematics of Computation* 67:1517–1531, 1998.
- [5] R. Sibson. A vector identity for the Dirichlet tessellation. *Mathematical Proceedings of the Cambridge Philosophical Society* 87:151–155, 1980.
- [6] N. H. Christ, R. Friedberg, and T. D. Lee. Weights of links and plaquettes in a random lattice. *Nuclear Physics B* 210(3):337–346, 1982.
- [7] I. Babuška, U. Banerjee, and J. E. Osborn. Survey of meshless and generalized finite element methods: A unified approach. *Acta Numerica* 12:1–125, 2003.
- [8] E. J. Kansa. Multiquadratics—A scattered data approximation scheme for applications to computational fluid-dynamics. 1. Surface approximations and partial derivative estimates. *Computers & Mathematics with Applications* 19(8/9):127–145, 1990.
- [9] T. Belytschko, Y. Krongauz, D. Organ, M. Fleming, and P. Krysl. Meshless methods: An overview and recent developments. *Computer Methods in Applied Mechanics and Engineering* 139:3–47, 1996.
- [10] J. Dolbow and T. Belytschko. An introduction to programming the meshless Element Free Galerkin method. *Archives of Computational Methods in Engineering* 5(3):207–241, 1998.
- [11] T. P. Fries and H. G. Matthies. Classification and overview of meshfree methods. Tech. Rep. Informatikbericht-Nr. 2003-03, Institute of Scientific Computing, Technical University Braunschweig, 2004.
- [12] F. Cirak, M. Ortiz, and P. Schröder. Subdivision surfaces: a new paradigm in thin-shell finite-element analysis. *International Journal for Numerical Methods in Engineering* 47(12):2039–2072, 2000.
- [13] J. Wertz, E. J. Kansa, and L. Ling. The role of the multiquadric shape parameters in solving elliptic partial differential equation. *Computers & Mathematics with Applications* 51(8):1335–1348, 2006.
- [14] R. Penrose. A generalized inverse for matrices. *Proceedings of the Cambridge Philosophical Society* 51:406–413, 1955.

- [15] V. V. Belikov, V. D. Ivanov, V. K. Kontorovich, S. A. Korytnik, and A. Y. Semenov. The non-Sibsonian interpolation: A new method of interpolation of the values of a function on an arbitrary set of points. *Computational Mathematics and Mathematical Physics* 37(1):9–15, 1997.
- [16] H. Hiyoshi and K. Sugihara. Two generalizations of an interpolant based on Voronoi diagrams. *International Journal of Shape Modeling* 5(2):219–231, 1999.
- [17] J. Braun and M. Sambridge. A numerical method for solving partial differential equations on highly irregular evolving grids. *Nature* 376:655–660, 1995.
- [18] E. Cueto, M. Doblaré, and L. Gracia. Imposing essential boundary conditions in the natural element method by means of density-scaled  $\alpha$ -shapes. *International Journal for Numerical Methods in Engineering* 49(4):519–546, 2000.
- [19] G. Farin. Surfaces over Dirichlet tessellations. *Computer Aided Geometric Design* 7(1–4):281–292, 1990.
- [20] H. Hiyoshi and K. Sugihara. Voronoi-based interpolation with higher continuity. *Proceedings of the 16th Annual ACM Symposium on Computational Geometry*, pp. 242–250, 2000.
- [21] H. Hiyoshi and K. Sugihara. Improving continuity of Voronoi-based interpolation over Delaunay spheres. *Computational Geometry* 22:167–183, 2002.
- [22] J.-D. Boissonnat and J. Flötotto. A coordinate system associated with points scattered on a surface. *Computer-Aided Design* 36(2):161–174, 2004.
- [23] U. Pinkall and K. Polthier. Computing discrete minimal surfaces and their conjugates. *Experimental Mathematics* 2(1):15–36, 1993.
- [24] W. K. Liu, S. Jun, and Y. F. Zhang. Reproducing kernel particle methods. *International Journal for Numerical Methods in Engineering* 20:1081–1106, 1995.
- [25] I. Babuška and J. M. Melenk. The partition of unity method. *International Journal for Numerical Methods in Engineering* 40:727–758, 1997.
- [26] E. T. Jaynes. *Probability Theory: The Logic of Science*. Cambridge University Press, Cambridge, UK, 2003.
- [27] C. E. Shannon. A mathematical theory of communication. *The Bell Systems Technical Journal* 27:379–423, 1948.
- [28] E. T. Jaynes. Information theory and statistical mechanics. *Physical Review* 106(4):620–630, 1957.
- [29] R. D. Rosenkrantz, editor. *E. T. Jaynes: Paper on Probability, Statistics and Statistical Physics*. Kluwer Academic Publishers, Dordrecht, The Netherlands, 1989.

- [30] E. T. Jaynes. Concentration of distributions at entropy maxima. In Rosenkrantz (29), pp. 317–336.
- [31] N. Sukumar. Construction of polygonal interpolants: A maximum entropy approach. *International Journal for Numerical Methods in Engineering* 61(12):2159–2181, 2004.
- [32] M. Arroyo and M. Ortiz. Local maximum-entropy approximation schemes: a seamless bridge between finite elements and meshfree methods. *International Journal for Numerical Methods in Engineering* 65(13):2167–2202, 2006.
- [33] M. R. Gupta. *An Information Theory Approach to Supervised Learning*. Ph.D. thesis, Department of Electrical Engineering, Stanford University, Palo Alto, CA, U.S.A., March 2003.
- [34] R. T. Rockafellar. *Convex Analysis*. Princeton University Press, Princeton, NJ, 1970.
- [35] V. T. Rajan. Optimality by the Delaunay triangulation in  $R^d$ . *Discrete and Computational Geometry* 12(2):189–202, 1994.
- [36] T. J. R. Hughes, J. A. Cottrell, and Y. Bazilevs. Isogeometric analysis: CAD, finite elements, NURBS, exact geometry and mesh refinement. *Computer Methods in Applied Mechanics and Engineering* 193(39–41):4135–4195, 2005.
- [37] S. Kullback and R. A. Leibler. On information and sufficiency. *Annals of Mathematical Statistics* 22(1):79–86, 1951.
- [38] S. Kullback. *Information Theory and Statistics*. Wiley, New York, NY, 1959.
- [39] N. Sukumar. Maximum entropy approximation. *AIP Conference Proceedings* 803(1):337–344, 2005.
- [40] V. Shapiro. Theory of R-functions and applications: A primer. Tech. Rep. CPA88-3, Cornell Programmable Automation, Sibley School of Mechanical Engineering, 1991.
- [41] A. Huerta and S. Fernández-Méndez. Enrichment and coupling of the finite element and meshless methods. *International Journal for Numerical Methods in Engineering* 48(11):1615–1636, 2000.
- [42] J. S. Chen, C. T. Wu, S. Yoon, and Y. You. A stabilized conforming nodal integration for Galerkin meshfree methods. *International Journal for Numerical Methods in Engineering* 50:435–466, 2001.
- [43] M. A. Puso and J. Solberg. A stabilized nodally integrated tetrahedral. *International Journal for Numerical Methods in Engineering* 67(6):841–867, 2005.