Research Topic 1: Anomaly Detection in Wireless Sensor Networks: Visual Assessment and Clustering for Environmental Monitoring.

Abstract. Anomalies in Wireless Sensor Networks (WSNs). (i) Isolated and epoch anomalies internal to a node; aberrant behavior of an entire node; and anomalous subtrees. (ii) Models that use data capture by level sets of ellipsoids (iii) Models that use visual assessment of elliptical summaries (iv) Measures of (dis)similarity on sets of ellipsoids (v) Visual evidence for cluster tendency in sets of ellipsoids (vi) Numerical examples using single linkage clustering on real WSN data from the IBRL network, the Great Barrier Reef Ocean Observation System, and the Grand St. Bernard pass.

Wahoo, Giant Trevally, Maui, Hawaii

Jim received the PhD in Applied Mathematics from Cornell University in 1973. Jim is past president of NAFIPS (North American Fuzzy Information Processing Society), IFSA (International Fuzzy Systems Association) and the IEEE CIS (Computational Intelligence Society): founding editor the Int'l. Jo. Approximate Reasoning and the IEEE Transactions on Fuzzy Systems: Life fellow of the IEEE and IFSA; and a recipient of the IEEE 3rd Millennium, IEEE CIS Fuzzy Systems Pioneer, and IEEE technical field award Rosenblatt medals. Jim's interests: woodworking, optimization, motorcycles, pattern recognition, cigars, clustering in very large data, fishing, co-clustering, blues music, wireless sensor networks, poker and visual clustering. Jim retired in 2007, and will be coming to a university near you soon.