

**Dr. Thrishantha NANAYAKKARA**

King's College, University of London, UK

**Selected Scholarly Contributions [Data Provided by **

Ranasinghe, A., Sornkarn, N., Dasgupta, P., Althoefer, K., Penders, J., Nanayakkara, T.

[Salient Feature of Haptic-Based Guidance of People in Low Visibility Environments Using Hard Reins](#)

(2016) IEEE Transactions on Cybernetics, 46 (2), art. no. 7122303, pp. 568-579.

Chathuranga, D.S., Wang, Z., Noh, Y., Nanayakkara, T., Hirai, S.

[Robust real time material classification algorithm using soft three axis tactile sensor: Evaluation of the algorithm](#)

(2015) IEEE International Conference on Intelligent Robots and Systems, 2015-December, art. no. 7353655, pp. 2093-2098.

Chathuranga, D.S., Wang, Z., Noh, Y., Nanayakkara, T., Hirai, S.

[Disposable soft 3 axis force sensor for biomedical applications](#)

(2015) Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS, 2015-November, art. no. 7319642, pp. 5521-5524.

Escudero Morland, M.F., Althoefer, K., Nanayakkara, T.

[Novel method to form adaptive internal impedance profiles in walkers](#)

(2015) Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS, 2015-November, art. no. 7320192, pp. 7764-7767.

Ranasinghe, A., Dasgupta, P., Althoefer, K., Nanayakkara, T.

[Identification of haptic based guiding using hard reins](#)

(2015) PLoS ONE, 10 (7), art. no. e0132020, .

Li, M., Konstantinova, J., Secco, E.L., Jiang, A., Liu, H., Nanayakkara, T., Seneviratne, L.D., Dasgupta, P., Althoefer, K., Wurdemann, H.A.

[Using visual cues to enhance haptic feedback for palpation on virtual model of soft tissue](#)

(2015) Medical and Biological Engineering and Computing, 53 (11), pp. 1177-1186.

González-Fierro, M., Hernández-García, D., Nanayakkara, T., Balaguer, C.

[Behavior sequencing based on demonstrations: A case of a humanoid opening a door while walking](#)

(2015) Advanced Robotics, 29 (5), pp. 315-329.

González-Fierro, M., Balaguer, C., Swann, N., Nanayakkara, T.

[A humanoid robot standing up through learning from demonstration using a multimodal reward function](#)

(2015) IEEE-RAS International Conference on Humanoid Robots, 2015-February (February), art. no. 7029958, pp. 74-79.

Li, M., Luo, S., Nanayakkara, T., Seneviratne, L.D., Dasgupta, P., Althoefer, K.

[Multi-fingered haptic palpation using pneumatic feedback actuators](#)

(2014) Sensors and Actuators, A: Physical, 218, pp. 132-141.

Song, X., Liu, H., Althoefer, K., Nanayakkara, T., Seneviratne, L.D.

[Efficient break-away friction ratio and slip prediction based on haptic surface exploration](#)

(2014) IEEE Transactions on Robotics, 30 (1), art. no. 6595565, pp. 203-219.

Masinghe, W.D., Nanayakkara, T., Collier, G.

[Upper limb joint torque distribution resulting from the flat tennis serve impact force](#)

(2014) IFMBE Proceedings, 41, pp. 145-148.

Konstantinova, J., Li, M., Mehra, G., Dasgupta, P., Althoefer, K., Nanayakkara, T.

[Behavioral characteristics of manual palpation to localize hard nodules in soft tissues](#)

(2014) IEEE Transactions on Biomedical Engineering, 61 (6), art. no. 6698327, pp. 1651-1659.

Faragasso, A., Bimbo, J., Noh, Y., Jiang, A., Sareh, S., Liu, H., Nanayakkara, T., Wurdemann, H.A., Althoefer, K.

[Novel uniaxial force sensor based on visual information for minimally invasive surgery](#)

(2014) Proceedings - IEEE International Conference on Robotics and Automation, art. no. 6907036, pp. 1405-1410.

González-Fierro, M., Balaguer, C., Swann, N., Nanayakkara, T.

[Full-body postural control of a humanoid robot with both imitation learning and skill innovation](#)

(2014) International Journal of Humanoid Robotics, 11 (2), art. no. 1450012, .

Zheng, M., Sadati, S.M.H., Ghalamchi, P., Nanayakkara, T.

[Passive dynamics of high frequency bat wing flapping with an anisotropic membrane](#)

(2014) 2014 7th International Conference on Information and Automation for Sustainability:

"Sharpening the Future with Sustainable Technology", ICIAfS 2014, art. no. 7069582, .

Konstantinova, J., Jiang, A., Althoefer, K., Dasgupta, P., Nanayakkara, T.

[Implementation of tactile sensing for palpation in robot-assisted minimally invasive surgery: A review](#)

(2014) IEEE Sensors Journal, 14 (8), art. no. 6819407, pp. 2490-2501.

Cotugno, G., Mohan, V., Althoefer, K., Nanayakkara, T.

[Simplifying grasping complexity through generalization of kinaesthetically learned synergies](#)

(2014) Proceedings - IEEE International Conference on Robotics and Automation, art. no. 6907645, pp. 5345-5351.

Faragasso, A., Stilli, A., Bimbo, J., Noh, Y., Liu, H., Nanayakkara, T., Dasgupta, P., Wurdemann, H.A., Althoefer, K.

[Endoscopic add-on stiffness probe for real-time soft surface characterisation in MIS](#)

(2014) 2014 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBC 2014, art. no. 6945121, pp. 6517-6520.

Calinon, S., Bruno, D., Malekzadeh, M.S., Nanayakkara, T., Caldwell, D.G.

[Human-robot skills transfer interfaces for a flexible surgical robot](#)

(2014) Computer Methods and Programs in Biomedicine, 116 (2), pp. 81-96.

Sornkarn, N., Howard, M., Nanayakkara, T.

[Internal impedance control helps information gain in embodied perception](#)

(2014) Proceedings - IEEE International Conference on Robotics and Automation, art. no. 6907846, pp. 6685-6690.

Faragasso, A., Stilli, A., Bimbo, J., Noh, Y., Liu, H., Nanayakkara, T., Dasgupta, P., Wurdemann, H.A., Althoefer, K.

[Endoscopic add-on stiffness probe for real-time soft surface characterisation in MIS](#)

(2014) Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, 2014, pp. 6517-6520.

Sareh, S., Jiang, A., Faragasso, A., Noh, Y., Nanayakkara, T., Dasgupta, P., Seneviratne, L.D., Wurdemann, H.A., Althoefer, K.

[Bio-inspired tactile sensor sleeve for surgical soft manipulators](#)

(2014) Proceedings - IEEE International Conference on Robotics and Automation, art. no. 6907043, pp. 1454-1459.

Jiang, A., Adejokun, S., Faragasso, A., Althoefer, K., Nanayakkara, T., Dasgupta, P.

[The granular jamming integrated actuator](#)

(2014) 2014 International Conference on Advanced Robotics and Intelligent Systems, ARIS 2014, art. no. 6871512, pp. 12-17.

Konstantinova, J., Li, M., Aminzadeh, V., Althoefer, K., Nanayakkara, T., Dasgupta, P.

[Evaluating manual palpation trajectory patterns in tele-manipulation for soft tissue examination](#)

(2013) Proceedings - 2013 IEEE International Conference on Systems, Man, and Cybernetics, SMC 2013, art. no. 6722467, pp. 4190-4195.

Takai, A., Alanizi, N., Kiguchi, K., Nanayakkara, T.

[Prototyping the flexible solenoid-coil artificial muscle, for exoskeletal robots](#)

(2013) International Conference on Control, Automation and Systems, art. no. 6704071, pp. 1046-1051.

Ranasinghe, A., Penders, J., Dasgupta, P., Althoefer, K., Nanayakkara, T.

[A two party haptic guidance controller via a hard rein](#)

(2013) IEEE International Conference on Intelligent Robots and Systems, art. no. 6696341, pp. 116-122.

Konstantinova, J., Li, M., Aminzadeh, V., Dasgupta, P., Althoefer, K., Nanayakkara, T.

[Force-velocity modulation strategies for soft tissue examination](#)

(2013) IEEE International Conference on Intelligent Robots and Systems, art. no. 6696622, pp. 1998-2003.

Ranasinghe, A., Althoefer, K., Nanayakkara, T., Penders, J., Dasgupta, P.

[An optimal state dependent haptic guidance controller via a hard rein](#)

(2013) Proceedings - 2013 IEEE International Conference on Systems, Man, and Cybernetics, SMC 2013, art. no. 6722150, pp. 2322-2327.

Pereno, V., Shoar, K., Bartoli, G., Bianchi, F., Nanayakkara, T.

[Stable walking on variable visco-elastic terrains using meta-parameters for passive state migration](#)

(2013) IEEE International Conference on Intelligent Robots and Systems, art. no. 6696800, pp. 3126-3131.

Li, M., Luo, S., Seneviratne, L.D., Nanayakkara, T., Althoefer, K., Dasgupta, P.

[Haptics for multi-fingered palpation](#)

(2013) Proceedings - 2013 IEEE International Conference on Systems, Man, and Cybernetics, SMC 2013, art. no. 6722466, pp. 4184-4189.

Malekzadeh, M.S., Bruno, D., Calinon, S., Nanayakkara, T., Caldwell, D.G.

[Skills transfer across dissimilar robots by learning context-dependent rewards](#)

(2013) IEEE International Conference on Intelligent Robots and Systems, art. no. 6696585, pp. 1746-1751.

Taylor, J.G., Cutsuridis, V., Hartley, M., Althoefer, K., Nanayakkara, T.

[Observational Learning: Basis, Experimental Results and Models, and Implications for Robotics](#)

(2013) Cognitive Computation, 5 (3), pp. 340-354.

Jiang, A., Aste, T., Dasgupta, P., Althoefer, K., Nanayakkara, T.

[Granular jamming transitions for a robotic mechanism](#)

(2013) AIP Conference Proceedings, 1542, pp. 385-388.

Wijesundera, I., Halgamuge, M.N., Nirmalathas, T., Nanayakkara, T.

[A geographic primitive-based Bayesian framework to predict cyclone-induced flooding](#)

(2013) Journal of Hydrometeorology, 14 (2), pp. 505-523.

Jiang, A., Aste, T., Dasgupta, P., Althoefer, K., Nanayakkara, T.

[Granular jamming with hydraulic control](#)

(2013) Proceedings of the ASME Design Engineering Technical Conference, 6 A, art. no. V06AT07A021, .

Jiang, A., Ataollahi, A., Althoefer, K., Dasgupta, P., Nanayakkara, T.

[A variable stiffness joint by granular jamming](#)

(2012) Proceedings of the ASME Design Engineering Technical Conference, 4 (PARTS A AND B), pp. 267-275.

Godage, I.S., Nanayakkara, T., Caldwell, D.G.

[Locomotion with continuum limbs](#)

(2012) IEEE International Conference on Intelligent Robots and Systems, art. no. 6385810, pp. 293-298.

Jiang, A., Bimbo, J., Goulder, S., Liu, H., Song, X., Dasgupta, P., Althoefer, K., Nanayakkara, T.

[Adaptive grip control on an uncertain object](#)

(2012) IEEE International Conference on Intelligent Robots and Systems, art. no. 6385922, pp. 1161-1166.

Wijesundera, I., Halgamuge, M.N., Nirmalathas, T., Nanayakkara, T.

[A computationally efficient framework for stochastic prediction of flood propagation](#)

(2012) ICIAFS 2012 - Proceedings: 2012 IEEE 6th International Conference on Information and Automation for Sustainability, art. no. 6420038, pp. 25-28.

Wijesooriya, P.N., Harsha Abeykoon, A.S.M., Udawatta, L., Punchihewa, A., Nanayakkara, T.

[Gait pattern analysis of an Asian elephant](#)

(2012) ICIAFS 2012 - Proceedings: 2012 IEEE 6th International Conference on Information and Automation for Sustainability, art. no. 6419908, pp. 221-226.

Masinghe, W., Collier, G., Ordys, A., Nanayakkara, T.

[A novel approach to determine the inverse kinematics of a human upper limb model with 9 degrees of freedom](#)

(2012) 2012 IEEE-EMBS Conference on Biomedical Engineering and Sciences, IECBES 2012, art. no. 6498074, pp. 525-530.

Jiang, A., Xynogalas, G., Dasgupta, P., Althoefer, K., Nanayakkara, T.

[Design of a variable stiffness flexible manipulator with composite granular jamming and membrane coupling](#)

(2012) IEEE International Conference on Intelligent Robots and Systems, art. no. 6385696, pp. 2922-2927.

Bianchi, F., Bartoli, G., Shoar, K., Armas Fernandez, M.R., Pereno, V., Zirjakova, J., Jiang, A., Nanayakkara, T.

[Adaptive internal impedance control for stable walking on uncertain visco-elastic terrains](#)

(2012) IEEE International Conference on Intelligent Robots and Systems, art. no. 6385905, pp. 2465-2470.

Penders, J., Jones, P., Nanayakkara, T.

[Exploring haptic interfacing with a mobile robot without visual feedback](#)

(2012) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 7429 LNAI, pp. 432-433.

Liu, H., Song, X., Nanayakkara, T., Seneviratne, L.D., Althoefer, K.

[A computationally fast algorithm for local contact shape and pose classification using a tactile array sensor](#)

(2012) Proceedings - IEEE International Conference on Robotics and Automation, art. no. 6224872, pp. 1410-1415.

Nanayakkara, T., Byl, K., Liu, H., Song, X., Villabona, T.

[Dominant sources of variability in passive walking](#)

(2012) Proceedings - IEEE International Conference on Robotics and Automation, art. no. 6224839, pp. 1003-1010.

Nanayakkara, T., Halgamuge, M.N., Sridhar, P., Madni, A.M.

[Intelligent sensing in dynamic environments using markov decision process](#)

(2011) Sensors, 11 (1), pp. 1229-1242.

Welihinda, S.M., Abeyratne, M.G.A.P., Udawatta, L., Nanayakkara, T.

[Stable bipedal ramp climbing with torso](#)

(2010) Proceedings of the 2010 5th International Conference on Information and Automation for Sustainability, ICIAfS 2010, art. no. 5715720, pp. 537-542.

Siriwardena, K.A.P., Fernando, L.C.P., Nanayakkara, N., Perera, K.F.G., Kumara, A.D.N.T., Nanayakkara, T.

[Portable acoustic device for detection of coconut palms infested by Rynchophorus ferrugineus \(Coleoptera: Curculionidae\)](#)

(2010) Crop Protection, 29 (1), pp. 25-29.

Hewapathirana, N.D., Uddawatta, L., Karunadasa, J.P., Nanayakkara, T.

[Analysis on four legged multipurpose rope climbing robot](#)

(2009) ICIIS 2009 - 4th International Conference on Industrial and Information Systems 2009, Conference Proceedings, art. no. 5429810, pp. 505-510.

Sing, G.C., Joiner, W.M., Nanayakkara, T., Braynov, J.B., Smith, M.A.

[Primitives for Motor Adaptation Reflect Correlated Neural Tuning to Position and Velocity](#)

(2009) Neuron, 64 (4), pp. 575-589.

Nanayakkara, T., Piyathilaka, J.M.L.C., Siriwardana, A.P., Subasinghe, S.A.A.M., Jamshidi, M.

[Orchestration of advanced motor skills in a group of humans through an elitist visual feedback mechanism](#)

(2007) 2007 IEEE International Conference on System of Systems Engineering, SOSE, art. no. 4304271, .

Sridhar, P., Nanayakkara, T., Madni, A.M., Jamshidi, M.

[Dynamic power management of an embedded sensor network based on actor-critic reinforcement based learning](#)

(2007) Proceedings of the 2007 3rd International Conference on Information and Automation for Sustainability, ICIAFS, art. no. 4544783, pp. 76-81.



De Silva, A., Jayathilake, M., Galgomuwa, A., Peiris, S., Udawatta, L., Nanayakkara, T.

[High performance temperature controller for infant incubators](#)

(2006) 2nd International Conference on Information and Automation, ICIA 2006, art. no. 4250258, pp. 115-120.

Bernardine Dias, M., Ayorkor Mills-Tettey, G., Nanayakkara, T.

[Robotics, education, and sustainable development](#)

(2005) Proceedings - IEEE International Conference on Robotics and Automation, 2005, art. no. 1570773, pp. 4248-4253.

Nanayakkara, T., Watanabe, K., Kiguchi, K., Izumi, K.

[Evolving a multiobjective obstacle avoidance skill of a seven-link manipulator subject to constraints](#)

(2004) International Journal of Systems Science, 35 (3), pp. 167-178.

Nanayakkara, T., Shadmehr, R.

[Saccade Adaptation in Response to Altered Arm Dynamics](#)

(2003) Journal of Neurophysiology, 90 (6), pp. 4016-4021.

Kiguchi, K., Nanayakkara, T., Watanabe, K., Fukuda, T.

[Multi-dimensional reinforcement learning using a vector Q-net - Application to mobile robots](#)

(2003) International Journal of Control, Automation and Systems, 1 (1), pp. 142-148.

Nanayakkara, D.P.T., Watanabe, K., Kiguchi, K., Shadmehr, R.

[Intelligent control of a 7-DOF manipulator based on model primitives](#)

(2002) IEEE International Symposium on Intelligent Control - Proceedings, pp. 538-543.

Ariff, G., Donchin, O., Nanayakkara, T., Shadmehr, R.

[A real-time state predictor in motor control: Study of saccadic eye movements during unseen reaching movements](#)

(2002) Journal of Neuroscience, 22 (17), pp. 7721-7729.

Nanayakkara, D.P.T., Watanabe, K., Kiguchi, K., Izumi, K.

[Evolutionary learning of a fuzzy behavior based controller for a nonholonomic mobile robot in a class of dynamic environments](#)

(2001) Journal of Intelligent and Robotic Systems: Theory and Applications, 32 (3), pp. 255-277.

Nanayakkara, D.P.T., Kiguchi, K., Murakami, T., Watanabe, K., Izumi, K.

[Skillful adaptation of a 7-DOF manipulator to avoid moving obstacles in a teleoperated force control task](#)

(2001) IEEE International Symposium on Industrial Electronics, 3, pp. 1982-1987.

Nanayakkara, T., Watanabe, K., Kiguchi, K., Izumi, K.

[Controlling multi-link manipulators by fuzzy selection of dynamic models](#)

(2000) IECON Proceedings (Industrial Electronics Conference), 1, art. no. 973224, pp. 638-643.

Nanayakkara, Thrishanta, Watanabe, Keigo, Izumi, Kiyotaka

[Evolving Runge-Kutta-Gill RBF networks to estimate the dynamics of a multi-link manipulator](#)

(1999) Proceedings of the IEEE International Conference on Systems, Man and Cybernetics, 2, pp. II-770 - II-775.