

Suranga NANAYAKKARA

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EDUCATION

- Ph.D., Engineering** 2005 - 2009
Department of Electrical & Computer Engineering, National University of Singapore.
Completed a 6-month research attachment at the Music Computation and Cognition (MuCoaCo) Laboratory, University of Southern California. Advised by Prof. Elaine Chew
Thesis: Enhancing Musical Experience for the Hearing-impaired using Visual and Haptic Feedback
Advisors: Dr. Elizabeth Taylor, Prof Lonce Wyse, Prof Ong Sim Heng
- BEng. (1st class honours)** 2001 - 2005
Department of Electrical & Computer Engineering, National University of Singapore.
Completed a one semester Student Exchange Program at University of Birmingham, UK.
Field of Specialisation: Electrical & Computer Engineering
- G.C.E. Advanced Level** 2000
Royal College, Colombo 7, Sri Lanka. Obtained the countrywide 5th rank out of 180, 000 candidates

PROFESSIONAL EXPERIENCE

- Assistant Professor** 2011 - Present
Engineering Product Development Pillar, Singapore University of Technology and Design.
- Associate Faculty** 2012 - Present
School of Science and Technology, SIM University, Singapore.
- External Examiner** 2013 - Present
Automation & Mechatronic Systems Course, Ngee Ann Polytechnic, Singapore.
- Project Consultant** 2015 - Present
David Peiris Group, Sri Lanka.
- Hostel Fellow** 2011 - 2015
Six degrees Student Hostel, Singapore University of Technology and Design.
- Visiting Assistant Professor** 2011-2012
Fluid Interfaces Group, MIT Media Lab. Collaborated with Prof. Pattie Maes
- Research Fellow** 2011
Interactive and Digital Media Institute, National University of Singapore. Advised by Prof. Lonce Wyse.
- Postdoctoral Associate** 2010-2011
Fluid Interfaces Group, MIT Media Lab. Advised by Prof. Pattie Maes.
- Research Engineer** 2009-2010
Marine Mammal Research Laboratory, National University of Singapore. Advised by Dr. Elizabeth Taylor

REFEREED PUBLICATIONS

Books

Nanayakkara, S. C., Huber, J. and Maes, P. 2015. Assistive Augmentation. Edited volume on Cognitive Science and Technology book series. **Springer** (Publishing Agreement Signed).

Long Papers

Ploderer, B., Fong, J., Withana, A., Klavic, M., Nair, S., Crocher, V., Vetere, F. and Nanayakkara, S. C. 2016. ArmSleeve: A Patient Monitoring System to Support Occupational Therapists in Stroke Rehabilitation. In

Proceedings of the ACM Conference on Designing Interactive Systems (Brisbane, Australia June 4–8, 2016). DIS'16. ACM, New York, NY. 700–711.

Shilkrot, R., Huber, J., Steimle, J., **Nanayakkara, S. C.** and Maes, P. 2015. Digital Digits: A Comprehensive Survey of Finger Augmentation Devices. **ACM Computing Survey**, 48 (2), Article 30.

Shilkrot, R., Huber, J., Wong, M. E., Maes, P. and **Nanayakkara, S. C.** 2015. FingerReader: A Wearable Device to Explore Printed Text on the Go. In **Proceedings of the 33rd Annual SIGCHI Conference on Human Factors in Computing Systems** (Seoul, Korea, April 18–23, 2015). CHI'15. ACM, New York, NY. 2363–2372.

Withana, A., Peiris, R., Samarasekara, N., and **Nanayakkara, S. C.** 2015. zSense: Enabling Shallow Depth Gesture Recognition for Greater Input Expressivity on Smart Wearables. In **Proceedings of the 33rd Annual SIGCHI Conference on Human Factors in Computing Systems** (Seoul, Korea, April 18–23, 2015). CHI'15. ACM, New York, NY. 3661–3670.

Olberding, S., Steimle J., Nanayakkara, S. and Maes, P. 2015. CloudDrops: Stamp-sized Pervasive Displays for Situated Awareness of Web-based Information. In **Proceedings of International Symposium on Pervasive Displays** (Saarbrücken, Germany, June 10–12, 2015). 47–53.

Cortes, J., P., F., Ching, T., H., Wu, C., Chionh, C., Y., **Nanayakkara S. C.**, and Foong, S. 2015. BWARD: An Optical Approach for Reliable in-situ Early Blood Leakage Detection at Catheter Extraction Points. In **Proceedings of the 7th IEEE International Conference on Automation and Mechatronics (RAM)** (Angkor Wat, Cambodia, July 1517, 2015), CIS-RAM 2015. IEEE, Piscataway, NJ.

Li, T., Raghunath, N., Holtta-Otto, K., Arpak, A., **Nanayakkara, S. C.** and Telenko, C. 2015. Teaching Interdisciplinary Design Between Architecture and Engineering - Finding Common Ground While Retaining Disciplinary Expertise. In **Proceedings of the ASME 2015 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference** (Boston, Massachusetts, August 2-5, 2015). IDETC/CIE 2015. IEEE, Piscataway, NJ. 1–11.

Withana, A., Koyama, S., Saakes, D., Kouta Minamizawa, K., Inam, M., and **Nanayakkara, S. C.** 2015. RippleTouch: Initial Exploration of Wave Resonant Based Full Body Haptic Interface. In **Proceedings of the 6th Augmented Human International Conference** (Marina Bay, Singapore, March 9–11, 2015). AH'15. New York, NY. 61–68.

Lissermann, R., Huber, J., Hadjakos, A., **Nanayakkara, S. C.** and Mhlhuser, M. 2014. EarPut: Augmenting Ear-worn Devices for Ear-based Interaction. In **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Sydney, Australia, December 2–5, 2014). OZCHI'14. ACM, New York, NY. 300–307.

Peiris, R. and **Nanayakkara, S. C.** 2014. PaperPixels : A Toolkit to Create Paper-based Displays. In **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Sydney, Australia, December 2–5, 2014). OZCHI'14. ACM, New York, NY. 498–504 [**Best Paper Award**].

Zoran, A., Shilkrot, R., **Nanayakkara, S. C.**, and Paradiso J. 2014. The Hybrid Artisans: A Case Study in Smart Tools. **ACM Transactions on Computer-Human Interaction (ToCHI)**, 21 (3),1–29.

Fan, K., Huber, J., **Nanayakkara, S. C.** and Inami, M. 2014. SpiderVision: Extending the Human Field of View for Augmented Awareness. In **Proceedings of the 5th Augmented Human International Conference** (Kobe, Japan, March 8–9, 2014). AH'14. New York, NY. 1–8.

Yeo, K. P., **Nanayakkara, S. C.** and Ransiri, S. 2013. StickEar: Making Everyday Objects Respond to Sound. In **Proceedings of the ACM Symposium on User Interface Software and Technology** (St Andrews, UK, October 8–11, 2013). UIST'13. ACM, New York, NY. 221–226.

Nanayakkara, S. C., Wyse L., Ong, S.H. and Taylor, E. 2013. Enhancing Musical Experience for the Hearing-impaired using Visual and Haptic Inputs. **Human-Computer Interaction**, 28 (2), 115–160.

Nanayakkara, S. C., Shilkrot, R., Yeo, K. P. and Maes, P. 2013. EyeRing: A Finger Worn Input Device for Seamless Interactions with our Surroundings. In **Proceedings of the 4th Augmented Human International Conference** (Stuttgart, Germany, March 8–9, 2013). AH'13. New York, NY. 13–20.

Nanayakkara, S. C., Wyse, L., Taylor, E. A. 2012. The Haptic Chair as a Speech Training Aid for the Deaf. In **Proceedings of the 24th Annual CHISGI Australian Computer-Human Interaction Conference** (Melbourne, Australia, November 26–30, 2012). OZCHI'12. ACM, New York, NY. 405–410.

Nanayakkara, S. C., Taylor, E., Wyse L. and Ong, S. H. 2009. An enhanced musical experience for the deaf: Design

and evaluation of a music display and a haptic chair. In **Proceedings of the 27th Annual SIGCHI Conference on Human Factors in Computing Systems** (Boston, USA, April 4–9, 2009). CHI'09. ACM, New York, NY. 337–346.

Short Papers

Peiris, R. L., **Nanayakkara, S. C.**, Wijesinghe, V. and Minamizawa, K. 2014. KineticCanvas: Synergetic Effort Between Art and Technology. In **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Melbourne, Australia, December 7–10, 2015). OZCHI'15. ACM, New York, NY. (accepted).

Avila, S., Huber, J., Janaka, N., Withana, A., Fernando, P. and **Nanayakkara, S. C.** 2014. SparKubes: Exploring the Interplay between Digital and Physical Spaces with Minimalistic Interfaces. In **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Sydney, Australia, December 2–5, 2014). OZCHI'14. ACM, New York, NY. 204–207.

Peiris, R., Janaka, N., De Silva, D. R. and **Nanayakkara, S. C.** 2014. SHRUG: Stroke Haptic Rehabilitation Using Gaming Interfaces. In **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Sydney, Australia, December 2–5, 2014). OZCHI'14. ACM, New York, NY. 380–383.

Fernando, P., Peiris, R. and **Nanayakkara, S. C.** 2014. I-Draw: Towards a Freehand Drawing Assistant. In **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Sydney, Australia, December 2–5, 2014). OZCHI'14. ACM, New York, NY. 208–211.

Hettiarachchi, A., Premalal, A., Dias, D. and **Nanayakkara, S. C.** 2014. Towards Context-Aware Just-in-Time Information: Micro-Activity Recognition of Everyday Objects. To appear in **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Sydney, Australia, December 2–5, 2014). OZCHI'14. ACM, New York, NY. 422–425.

Shilkrot, R., Huber, J., Liu, C. K., Maes, P. and **Nanayakkara, S. C.** 2014. FingerReader: A Wearable Device to Support Text-Reading on the Go. In **Extended Abstracts of the 32nd Annual SIGCHI Conference on Human Factors in Computing Systems** (Toronto, Canada, April 26–May 2, 2014). CHI'14. ACM, New York, NY. 2359–2364.

Huber, J., Rekimoto, J., Inami, M., Shilkrot, R., Maes, P. Wong, M. E., Pullin, G. and **Nanayakkara, S. C.** 2014. Workshop on Assistive Augmentation. Proceedings of the 32nd Annual SIGCHI Conference on Human Factors in Computing Systems (Toronto, Canada, April 26–May 2, 2014). CHI'14. ACM, New York, NY. 103–106.

Petry, B., Avila, S., **Nanayakkara S. C.** and Foong, S. 2014. 'Birdie: Towards a true flying experience'. In "Workshop on Assistive Augmentation", Extended Abstracts of the 32nd Annual SIGCHI Conference on Human Factors in Computing Systems (Toronto, Canada, April 26–May 2, 2014). CHI'14. ACM, New York, NY.

Yeo, K., P. and **Nanayakkara, S. C.** 2013. SpeechPlay: Composing and Sharing Expressive Speech Through Visually Augmented Text. In **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Adelaide, Australia, November 25–29, 2013). OZCHI'12. ACM, New York, NY. 565–568.

Ransiri, S., Peiris, R., L. A., Yeo, K., P. and **Nanayakkara, S. C.** 2013. SmartFinger: Connecting Devices, Objects and People seamlessly. In **Proceedings of the 25th Annual CHISGI Australian Computer-Human Interaction Conference** (Adelaide, Australia, November 25–29, 2013). OZCHI'12. ACM, New York, NY. 359–362.

Yeo, K. P. and **Nanayakkara, S. C.** 2013. StickEar: Augmenting Objects and Places Wherever Whenever. In **Extended Abstracts of the 31st Annual SIGCHI Conference on Human Factors in Computing Systems** (Paris, France, April 27–May 2, 2013). CHI'13. ACM, New York, NY. 751–756.

Hettiarachchi, A., **Nanayakkara, S. C.**, Yeo, K. P., Shilkrot, R. and Maes, P. 2013. FingerDraw: More than a Digital Paintbrush. In **Proceedings of the 4th Augmented Human International Conference** (Stuttgart, Germany, March 8–9, 2013). AH'13. New York, NY. 1–4.

Ransiri, S. and **Nanayakkara, S. C.** 2013. SmartFinger: An Augmented Finger as a Seamless 'Channel' between Digital and Physical Objects. In **Proceedings of the 4th Augmented Human International Conference** (Stuttgart, Germany, March 8–9, 2013). AH'13. New York, NY. 5–8.

Olberding, S., Yeo, K. P., **Nanayakkara, S. C.** and Steimle, J. 2013. AugmentedForearm: Exploring the Design Space of a Display-enhanced Forearm. In **Proceedings of the 4th Augmented Human International Conference** (Stuttgart, Germany, March 8–9, 2013). AH'13. New York, NY. 9–12.

Ransiri, S. and **Nanayakkara, S. C.** 2012. WatchMe: Wrist-worn interface that makes remote monitoring seamless. In **Proceedings of the 14th international ACM SIGACCESS conference on Computers and accessibility** (Boulder, Colorado, October 22–24, 2012). ASSETS'12. 243–244.

Nanayakkara, S. C., Wyse, L., Taylor, E. A. 2012. Effectiveness of the Haptic Chair in Speech Training. In **Proceedings of the 14th international ACM SIGACCESS conference on Computers and accessibility** (Boulder, Colorado, October 22–24, 2012). ASSETS'12. 235–236.

Wyse L., **Nanayakkara, S. C.**, Seekings, P., Ong, S. H. and Taylor, E. 2012. Palm-area sensitivity to vibrotactile stimuli above 1 kHz. In **Proceedings of the 12th International Conference on New Interfaces for Musical Expression** (Ann Arbor, Michigan, May 21–23, 2012). NIME'12. 21–23.

Nanayakkara, S. C., Shilkrot, R. and Maes, P. 2012. EyeRing: A Finger-worn Assistant. In **Extended Abstracts of the 30th Annual SIGCHI Conference on Human Factors in Computing Systems** (Austin, Texas, May 5–10, 2012). CHI'12. ACM, New York, NY. 1961–1966.

Wyse, L., Mitani, N. and **Nanayakkara, S. C.** 2011. Biases and interaction effects in gestural acquisition of auditory targets using a hand-held device. In **Proceedings of the 23rd Annual CHISGI Australian Computer-Human Interaction Conference** (Canberra, Australia, November 28–December 2, 2011). OZCHI'11. ACM, New York, NY. 315–318.

Wyse L., Mitani, N. and **Nanayakkara, S. C.** 2011. The effect of visualizing audio targets in a musical listening and performance task. In **Proceedings of the 11th International Conference on New Interfaces for Musical Expression** (Oslo, Norway, May 30–June 1, 2011). NIME'11. 304–307.

Nanayakkara, S. C., Taylor, E., Wyse L. and Ong, S.H. 2007. Towards building an experiential music visualizer. In **Proceedings of the 6th International Conference on Information, Communications and Signal Processing** (Singapore, December 10–13, 2007). ICICS'07. IEEE, Piscataway, NJ. 1–5.

Nanayakkara, S. C., Srinivasan. D., Lup, L. W., German, X., Taylor, E. and Ong, S H. 2007. Genetic Algorithm Based Route Planner for Large Urban Street Networks. In **Proceedings of the IEEE Congress on Evolutionary Computation** (Singapore, September 25–28, 2007). CEC'07. IEEE, Piscataway, NJ. 4469-4474.

Nanayakkara, S. C., Chitre, M., Ong, S. H. and Taylor, E. 2007. Automatic classification of whistles produced by Indo-Pacific Humpback dolphins (*Sousa chinensis*). In **Proceedings of the IEEE Oceans Conference** (Aberdeen, Scotland, June 18–21, 2007). Oceans'07. IEEE, Piscataway, NJ. 1–5.

Miscellaneous

Nanayakkara, S. C., Mishra, A. K. and Mahapatra, D. 2007. Visual attention while watching movies. **IEEE Region 10 Student Paper Contest**. March, 2007.

Taylor, E., Chang, A., Yeo, K. P., **Nanayakkara, S. C.** and Watanabe, K. 2006. Study of the ability of Indo-Pacific Humpback dolphins (*Sousa chinensis*) to respond to synthesised dolphin-like whistles (Frequency Modulated or FM tones). **Presented at the 34th Annual Conference of the International Marine Animal Trainers' Association**. November 5–10, 2006.

INVITED TALKS, LECTURES & PRESENTATIONS

Speaker, VisualSG Forum Visual SG is South East Asia's signature Visualisation Festival organised by Singapore Science Center.	2016
Speaker, E2Connect (Enable, Empower and Connect) Singapore's inaugural Forum on Infocomm and Assistive Technologies (IT/AT).	2016
Speaker, TEDxYouth Palmerston Universal Design Enables Everyone .	2016
Speaker, SLASS 2015 SLAAS is the premier scientific body in Sri Lanka and is represented by scientists from all branches of science from universities and industry in Sri Lanka.	2015
University of Melbourne 2015 Speaker, IDL seminar series, "Initial steps towards Assistive Augmentation", The Microsoft Research Centre for Social Natural User Interfaces, University of Melbourne.	2015
IIUPST 2015 Keynote: Initial steps towards Assistive Augmentation.	2015
Augmented Human 2015 Speaker, Invited panel session, Augmentation and Singularity: The Future of Augmented Human.	2015
CAPT International Student Symposium Speaker, Invited panel session, "EyeRing: A Finger Worn Input Device for Seamless Interactions". CAPT International Student Symposium - Design, Technology and Disability Panel, Singapore 2014.	2014
MIT Global Startup Labs Invited lecture, "Prototyping and Concept Videos". MIT GSL, Sri Lanka 2014.	2014
University of Colombo, Sri Lanka Invited lecture, "Graduate Research Opportunities in HCI". Department of Electronics and Telecommunications Lecture Series.	2014
University of Moratuwa, Sri Lanka Invited lecture, "Graduate Research Opportunities in HCI". Department of Computer Science Lecture Series.	2014
Urban Redevelopment Authority, Singapore Invited speaker, "Light, Art in Today's context". i Light Symposium 2014.	2014
Instituto Tecnológico Autónomo de México, Mexico Invited Speaker, University Distinguished Lecture Series. "Initial Steps Towards Assistive Augmentation".	2013
University of Moratuwa, Sri Lanka Invited speaker, "Introduction to Sensory Augmentation". Department of Computer Science Lecture Series.	2013
TechInnovation, Singapore Tech Fair Invited speaker, "EyeRing: A Finger-worn Interface". Industry-technology matching event, Singapore.	2012
Australian Computer-Human Interaction Conference, Australia Speaker, "FingerDraw: Finger Turned into a Brush Connecting Digital and Physical Worlds". Flash Talk, OZCHI'12.	2012

PATENTS

Cortes J. P. F, **Nanayakkara S. C.** and Fernando, P. A system and method for providing information for at least one predefined location. Singapore Provisional Patent Application: 10201600342W. Filing Date: 15 January 2016.

Cortes J. P. F, **Nanayakkara S. C.** and Foong, S. B. Ward: An Optical Approach for Reliable in-situ Early Blood Leakage Detection at Catheter Extraction Points. Singapore Provisional Patent Application: WT/EK/ann/S.20151973 (3052/SG). Filing Date: 14 July 2015.

Withana, A. and **Nanayakkara S. C.** zSense: A novel technique for close proximity gesture recognition. Singapore Provisional Patent Application: 10201407991X. Filing Date: 1 December 2014.

Peiris R. L. and **Nanayakkara S. C.** Stroke Haptic Rehabilitation Utilising Gaming. Singapore Provisional Patent Application: IES101930. Filing Date: 27 October 2014.

Wilhelm E., **Nanayakkara S. C.**, Shaohui F. and Elvitigala S. StickAmps: just in time intuitive price signals via non-invasive wireless sensors. Singapore Provisional Patent Application:SG4663. Filing Date: 23 May 2014.

Peiris R. L. and **Nanayakkara S. C.** A Toolkit that Allows Users to Animate Contents on Paper or Textiles. Singapore Provisional Patent Application: 10201400334Y. Filing Date: 19 March 2014.

Taylor, E., **Nanayakkara S. C.**, Wyse, L. L., Ong, S. H., Yeo, K. P. and Tan, G. H. Haptic Chair with Audiovisual Input. US Patent No. US 8,638,966 B2 . January. 28, 2014.

Yeo K. P. and **Nanayakkara S. C.** A distributed Wireless Sensing System. US Provisional Patent Application: 61/750,578. Filing Date: 9 January 2013.

Nanayakkara S. C., Shilkrot R. and Maes P. EyeRing: A Finger-worn Assistant. US Provisional Patent Application: 61581766. Filing Date: 30 December 2011.

Mistry, P., **Nanayakkara S. C.** and Maes, P. Methods and Apparatus for Touch-Based Data Transfer. US Provisional Patent Application: 61408728. Filing Date: 1 November 2010.

PROFESSIONAL EXHIBITS, INSTALLATIONS & CONTRIBUTIONS TO DESIGN SCIENCE

Nanayakkara, S. C., Schroepfer, T., Wyse, L., Withana, A., Lian, A. 2015. SonicSG: Large-scale interactive sonic light installation in the Singapore River. Funded by **SG50 Celebration Fund** Dec 2015 - Jan 2016.

Nanayakkara, S. C., Schroepfer, T., Wyse, L., Boldu, R., Muthukumarana, S., Withana, A., Lian, A. 2015. RIBBON Read Bridge: Large-scale interactive light installation along the Singapore Read Bridge. Funded by **Singapore River One** Dec 2015 - Jan 2016.

Nanayakkara, S. C., and Yeo, K. P. 2014-2015. StickEar. Invited exhibition at **The Davinci: Shaping the Future** exhibition at Art Science Museum, Marina Bay Sands, Singapore, Nov 2014-May 2015.

Nanayakkara, S. C., Shilkrot, R., Huber, J. and Maes, P. 2014-2015. FingerReader. Invited exhibition at **The Davinci: Shaping the Future** exhibition at Art Science Museum, Marina Bay Sands, Singapore, Nov 2014-May 2015.

Peiris R., Wijesinghe, V. and **Nanayakkara, S. C.** 2015. SHRUG: Stroke Haptic Rehabilitation Using Gaming. **Demos of the 6th Augmented Human International Conference** (Marina Bay, Singapore, March 9–11, 2015). AH'15. New York, NY. 213–214.

Huber, J., Malavipathirana, H., Wang, Y., Li, X., Fu, J. C., Maes, P. and **Nanayakkara, S. C.** 2015. Feel & See the Globe: A Thermal, Interactive Installation. **Demos of the 6th Augmented Human International Conference** (Marina Bay, Singapore, March 9–11, 2015). AH'15. New York, NY. 215–216.

Yong, K. F., Forero, J. P., Foong, S. and **Nanayakkara, S. C.** 2015. FootNote: Designing a Cost Effective Plantar Pressure Monitoring System for Diabetic Foot Ulcer Prevention. **Posters of the 6th Augmented Human International Conference** (Marina Bay, Singapore, March 9–11, 2015). AH'15. New York, NY. 167–168.

Nanayakkara, S. C., Schroepfer, T., Withana, A., Peris, R., Huber, J., Wijesinghe, V., Wortmann, T., Cornelius, A., Khew, Y.N., Lian, A. 2014. Making Sense: Intersecting Lines of Investigation in Design and Technology. Invited exhibition at **National Design Centre** (111 Middle Road, Singapore, 8–30 Nov, 2014).

Nanayakkara, S. C., Schroepfer, T., Withana, A., Wortmann, T., Cornelius, A., Khew, Y.N., Lian, A. 2014. Keepers & Bees: an interactive light-art installation of interactive critters that visitors can interact with in real time via their smartphones. In **Singapore, Archifest 2014** (Keepers: Singapore Designer Collaborative, Orchard Green, Singapore, 26 Sep - 11 October, 2014).

Nanayakkara, S. C., Schroepfer, T., Withana, A., Wortmann, T. and Pablo, J. 2014. nZwarm: a swarm of luminous "sea creatures" that interact with passers-by. In **Wellington LUX 2014** (Wellington Waterfront, New Zealand, 22 31 August, 2014).

Nanayakkara, S. C., Schroepfer, T., Wortmann, T., Yeo, K. P., Khew, Y. N., Lian, A. and Cornelius, A. 2014. iSwarm: an iterative light installation on the water. In **i Light Marina Bay 2014** (Marina Bay, Singapore, 7 30 March, 2014).

Shilkrot, R., Huber, J., Liu, C. K., Maes, P. and **Nanayakkara, S. C.** 2014. A Wearable Text-Reading Device for the Visually-Impaired. In **Videos Track of the 32nd Annual SIGCHI Conference on Human Factors in Computing Systems** (Toronto, Canada, April 26–May 2, 2014). CHI'14. ACM, New York, NY. 193–194.

Yeo, K. P., **Nanayakkara, S. C.** and Ransiri, S. 2013. StickEar: Making Everyday Objects Respond to Sound. **Demos of the ACM Symposium on User Interface Software and Technology** (St Andrews, UK, October 8–11,

2013). *UIST'13*. ACM, New York, NY.

Nanayakkara, S. C., Shilkrot, R. and Maes, P. 2012. EyeRing: An Eye on a Finger. In **Interactivity (Research) Track of the 30th Annual SIGCHI Conference on Human Factors in Computing Systems** (Austin, Texas, May 5–10, 2012). *CHI'12*. ACM, New York, NY.

Nanayakkara, S. C., Shilkrot, R. and Maes, P. 2012. EyeRing: An Eye on a Finger. In **Videos Track of the 30th Annual SIGCHI Conference on Human Factors in Computing Systems** (Austin, Texas, May 5–10, 2012). *CHI'12*. ACM, New York, NY.

Mistry, P., **Nanayakkara, S. C.**, and Maes, P. 2011. Touch and Copy, Touch and Paste. In **Interactivity (Research) Track of the 29th Annual SIGCHI Conference on Human Factors in Computing Systems** (Vancouver, Canada, May 7–12, 2011). *CHI'11*. ACM, New York, NY.

Mistry, P., **Nanayakkara, S. C.** and Maes, P. 2011. SPARSH: Passing Data using the Body as a Medium. In **Interactivity Track of the 16th Annual ACM Conference on Computer Supported Cooperative Work** (Hangzhou, China, March 19–23, 2011). *CSCW'11*. ACM, New York, NY.

Mistry, P., **Nanayakkara, S. C.**, and Maes, P. 2011. SPARSH: Touch the Cloud. In **Demonstrations Track of the 16th Annual ACM Conference on Computer Supported Cooperative Work** (Hangzhou, China, March 19–23, 2011). *CSCW'11*. ACM, New York, NY.

Mistry, P., **Nanayakkara, S. C.**, and Maes, P. 2011. SPARSH: Touch the Cloud. In **Videos Track of the 16th Annual ACM Conference on Computer Supported Cooperative Work** (Hangzhou, China, March 19–23, 2011). *CSCW'11*. ACM, New York, NY.

HONORS & AWARDS

INK Fellow Awarded by INK, which is India's foremost platform for the exchange of cutting-edge ideas and inspiring stories. Every year, INK identifies the minds that are redefining their field of work, and the world around them.	2016
Most Promising Technology Award. Awarded for the Project zSense at InnoveFest unBound 2016, South East Asia's largest innovation festival.	2016
Singapore Design Award (Product - Gold Category). Awarded for the Project FingerReader by Design Business Chamber Singapore. The Singapore Design Awards (SDA) honours outstanding designers, design students and design practices from across the world and it remains the leading design award in Southeast Asia.	2016
The Ten Outstanding Young Persons (TOYP) Award, Sri Lanka. An award given by Junior Chamber International Sri Lanka for outstanding achievement in Scientific and Technological Development.	2015
Young Innovator under 35 (MIT TR35) award, Asia Pacific region. An award given by MIT Technology Review for top young innovators under the age of 35.	2014
Best Paper, OZCHI'14. In recognition of the research paper 'PaperPixels : A Toolkit to Create Paper-based Displays' presented at the 25th Annual CHISGI Australian Computer-Human Interaction Conference.	2014
Finalist, Singapore Challenge, GYSS'14. In recognition of the white paper 'Smart adaptive interfaces for ageing gracefully' submitted to Global Young Scientist Summit 2014.	2014
NUS Research Scholarship. A full scholarship awarded by the National University of Singapore to pursue Doctoral research.	2005-2009
Most Valuable Player (MVP) of the year. Awarded in recognition of outstanding contribution towards the promotion of cricket in the National University of Singapore.	2008
Engineering Dean's List of Excellence. Awarded by National University of Singapore in recognition of the outstanding academic results.	2002
NUS Undergraduate Scholarship. A full scholarship awarded by the National University of Singapore to pursue undergraduate studies.	2001-2005
Best Student (Overall Academic Results), Royal College. Awarded by Royal College, Sri Lanka in recognition of the best overall academic results in all academic streams in the school and GCE A level Examination results.	2000

TEACHING

Assistant Professor, SUTD 3.007: Introduction to Design. Freshmore level signature course at SUTD. Introduces concepts of design at a variety of scales and through both engineering and architectural design disciplines.	2012-Present
30.101: Systems and Control. Sophomore level course at Engineering Product Development Pillar (EPD), SUTD. Introduces the fundamentals of signal processing and control concepts in physical systems.	
Associate Faculty, UniSIM MTD205: Audio Technology. Level 2 course at UniSIM. Provides the theoretical foundation on the operation of audio systems as components used in multimedia production, distribution and reproduction.	2013-Present
Teaching Assistant, MIT Media Lab MAS672 New Paradigms in Human Computer Interaction. Graduate course at MIT Media Lab. Teaching Assistant to Professor Pattie Maes, Spring 2012.	2012
Tutor, MIT ESG 18.03 Linear Algebra. Freshmore level course at MIT ESG. Recitation tutor to Dr. Gabrielle Stoy, Spring 2012.	2012
Guest Lectures Augmented Human: Assistive Technologies. MAS672 New Paradigms in Human Computer Interaction, Spring 2012. An Introduction to Empirical Research Methods in Human Computer Interaction, Workshop lecture, Interactive and Digital Media Institute at National University of Singapore, Spring 2011.	2011-Present

ADVISING & STUDENT SERVICES

PhD Theses

Shi Yilei Engineering Product Development Pillar, Singapore University of Technology and Design Thesis Title: TBD	2015-Present
Priyashri Sridhar Engineering Product Development Pillar, Singapore University of Technology and Design Thesis Title: TBD	2015-Present
Benjamin Petry Engineering Product Development Pillar, Singapore University of Technology and Design Thesis Title: TBD Achievements: <ul style="list-style-type: none">• Sponsor choice award, UIST student innovation competition• Best poster presentation, EPD PhD student industrial project poster competition• Most creative award, Singapore Amazing Flying Machine Competition• Finalist, Singapore Challenge, GYSS14	2013-Present

MEng Theses

Yong Kin Fuai SUTD-MIT Dual Masters' Programme Thesis Title: Foot.Note: Designing a Cost Effective Plantar Pressure Active Monitoring System for Diabetic Foot Ulcer Prevention	2013-2014
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Undergraduate Theses

- Lin Weixi** 2009
Department of Electrical & Computer Engineering, National University of Singapore
Thesis Title: Amplitude Modulation of Ultrasound Carrier Wave (Hearing Ultrasound)
- Sebastian Tan Yong Yap** 2008
Department of Electrical & Computer Engineering, National University of Singapore
Thesis Title: Sensing Music through Vibrations
- Siddharth Jain** 2008
Department of Electrical & Computer Engineering, National University of Singapore
Thesis Title: Visual Representation of Music

Undergraduate Research Opportunities Program (UROP)

- @ MIT** 2011 - 2012
Savithru Jayasinghe, Jeff Chen, Kwadwo Nyarko, Yang Chen, Tal Tchwellla
- @ SUTD** 2011 - Present
Wang Keren, Seow Chun Yong, Dexter Chew, Kee Bei Jia, Ken Chua, Cheong Li Yang, Ching Tsz Him, Reng yang, Wu chuyi, Xie yaqi, Chen Jiaying, Clara Hannah Goh Mei Ling

Visiting Researchers

- MIT Media Lab** 2012 - 2013
Pol Pla, Roy Shilkrot, Amit Zoran
- MIT MISTI Global Leadership Program** 2012 - Present
Connie Liu, Lynn Takeshita, Ruth E. Park, Jessica A. Fang
- University of Moratuwa** 2012 - Present
Anuruddha Hettiarachchi, Nipuna Samarasekara, Samitha Elvitigala, Nuwan Janaka, Vikum Wijesinghe, Hasantha Malavipathirana, Akshika Wijesundara
- Singapore Polytechnic** 2012
Law Jiali

Competitions

- Student Innovation Contest, UIST'14** 2014
Faculty Advisor for the Team 'SpInformation' who won the Sponsor's Choice Award. Team members: Benjamin Petry, Juan Pablo and Kin Yong.
- Microsoft Imagine cup** 2012
Faculty Advisor for the Team 'TechConnect' who was a Semi-finalist. Team memebers: Seow Chun Yong, Madeline Wong, Raymond Te Yeng Jie, Terence Chew Wei Liang

Undergraduate Mentorships

- Li Yiyang, Chew Wei-Liang, Lange Gordon Victor, Chia Zhong Ying, Sherman Tan Xian Loong, Chia Wei Yin, Soong Hoe Yan Alex 2011-Present

Other significant student services

- Hostel Fellow at 6-degrees** 2011-2015
Pioneering member of setting up the residential mentors program at SUTD Student hostel. Hostel fellow of the Green Stairways (responsible to 80 undergraduate students) at SUTD 6-degrees hostel.
Lived-in with the students and was available to them 24/7.
Organized various students activities including suppers, BBQs, pre-exam dinners, weekly informal chat sessions.

SERVICE

Academic Related Professional & Public Services

Chairing 2014-Present

Steering Committee Member, Augmented Human International Conference (AH)| Program Chair, AH'17 | General Chair, AH'15| Chair, CHI'14 workshop on Assistive Augmentation

Editorial Boards 2013-Present

Human-Centric Computing and Information Sciences (HCIS) journal.
Augmented Human Research journal.
Advanced Robotics Journal.

Program Committees 2012-Present

ACM HAI'16 | ACM MM'16 Demo | CHI'15 WIP | OZCHI'14 | AH'14 | OZCHI'13 | OZCHI'12 | Mai-I 2013

Reviewer 2010-Present

CIS-RAM'15| CHI'14 | OZCHI'14 | Mobile HCI'14 | IEEE TLT| ACM TIIS | OZCHI'13 | CHI'13 | AH'13 | DIS'12 | APCHI'12| OZCHI'12 | ICEC'10 | IEEE VR'10

Organising Committees 2007-Present

Spatial Audio for Mobile Devices Workshop in conjunction with MobileHCI'07
National Junior College (NJC) Future Challenge Competition, 2011
SUTD Technology and Design Challenge, 2011

Memberships 2009-Present

Member, Association for Computing Machinery (ACM)
Vice-president, Lanka Lions Cricket Club, Singapore (LLCC), 2012
Secretary, Lanka Lions Cricket Club, Singapore (LLCC), 2010

Volunteer 2000-Present

Dr.Reijntjes School for the Deaf in Moratuwa, Sri Lanka
National Council for the Deaf, Sri Lanka

Administrative & Committee Services

SUTD Internal Review Board (IRB) 2012-Present

Pioneering member of setting up the SUTD Internal Review Board committee. Served in the board for more than 2 years and reviewed 16 IRB applications.

EPD Budget Committee 2013-2014

Lead the EPD budget committee. Coordinated EPD budget requests, worked closely with the committee members, EPD associate director to make recommendations to the EPD Pillar head.

EPD Entertainment & Awards Committee 2013-2014

Member of the EPD Entertainment and Awards committee. Worked closely with the team to figure out the mission of the committee. Worked with the EPD faculty to consolidate a list of potential awards for EPD faculty members.

Cohort room advisor for the 12F07 2012

SUTD Students Academic Integrity code 2011

Contributed to the development of SUTD Students Academic Integrity code during MIT T-T-T program.

OUTREACH ACTIVITIES

General Activities to Increase the Visibility of SUTD

- **EPD Distinguished lecture Series:** Invited Professor Pattie Maes, from MIT Media Lab, to give a lecture at EPD distinguished lecture series. Turned out to be one of the most attended (~110 internal and external attendees) lectures.
- **SUTD Open House:** Contributed with over 12 live demonstrations at the SUTD Open Houses in 2012 and 2013.

- **SUTD Admissions Talks:** Represented SUTD in admissions talk held at Ngee Ann Polytechnic (~150 poly students). Participated in SUTD promotion talks for Junior colleges: RI, CJC, Hwa Chong (July 2011). Hosted a table during the SUTDs admission tea held at Bugis Ballroom, Intercontinental Hotel (May 2011).
- **Future Challenge Competition:** Represented SUTD as a judge during National Junior College (NJC) Future Challenge Competition, where 25 student teams from local and foreign schools competed (May 2011).
- **SIFE Singapore National Competition:** Represented SUTD at SIFE Singapore National Competition 2011 (June 2011).
- **Microsoft Imagine cup:** Faculty Advisor of the SUTD student team TechConnect; semi-finalist of the competition.

Promoting Academic programs of SUTD

- **SUTD PhD Program:** During a vacation visit to Sri Lanka, I organised two seminars at University of Moratuwa, and University of Colombo in Sri Lanka to promote SUTD PhD program. About 200 potential students attended the seminar.
- **SUTD-MIT Joint Postdoc Fellowship:** Promoted SUTD-MIT joint postdoc fellowship on various email lists. Short-listed 41 high-quality applications and one applicant was selected for the fellowship.
- **SUTD Undergraduate Program:** Discussed the possibilities of promoting SUTD among the best Sri Lankan students; as a starting point, coordinated with Tai Kian Heng (Director of Admissions SUTD) and principal of Royal College (the leading school in Sri Lanka) to distribute SUTD brochures (July 2011).

Outreach to Academic Institutions

- **University of Melbourne:** Hosted a meeting with Associate Professor Shanton Chang, Assistant Dean (Exchange), Melbourne School of Engineering to discuss potential summer course for Graduate students in the Melbourne Accelerator Program (July 2015).
- **Graduate School of Media Design (KMD), University of Keio:** Hosted a meeting to discuss potential collaboration between SUTD and KMD. Professor Masa Inakage (Dean, KMD) and Professor Masahiko Inami (Director, Inami Lab), Professor Kristin Wood and Suranga Nanayakkara attended the meeting. Possibilities of joint research program was discussed (February, 2014).
- **Instituto Tecnológico Autónomo de México (ITAM):** Conceptualised, Co-developed and conducted a summer design course for 18 visiting students from ITAM. The course generated 30% net profit to SUTD. More importantly, ITAM was very impressed by the course and Provost from ITAM visited SUTD in October 2013 to meet SUTD provost to explore further collaborations (July 2013).
- **MIT Media Lab:** Organised and conducted three lab tours of Fluid Interfaces Group at the MIT media lab for SUTD senior management and scientific advisory board of SUTD-MIT IDC (2011–2012).
- **Australian National University (ANU):** Hosted a meeting to discuss potential collaboration between SUTD and ANU. Associate Professor Henry Gardner (Head, Department of Computer Science, ANU), Professor Christopher Magee (Co-director, SUTD-IDC) and Suranga Nanayakkara attended the meeting. Possibilities of student internships, PhD Students, collaborative research projects were discussed (May 2011).

Outreach to Industry

- Promoted SUTD among many local companies and have given them SUTD tours as well as demonstrations of my research. These companies include: SingTel, NEC, TREK2000, Global Foundries, Schneider Electric and IDA.

Other Outreach Activities

- Coordinated UX/UI design workshop (organised by Microsoft Singapore) for SUTD students
- Evaluated over 60 student submissions and selected 5 winners for SUTD Technology and Design Challenge (June 2011). Other members: Chris Magee and Foong Shaohui.
- Student Interviews: Conducted more than 25 Student Admission interviews as part of the SUTD admission exercise.

SELECTED PRESS

Web

- CCTV (2016). "Technology enables people with disabilities". February 2016.
- CNN (2015). "Singapore designers create lights for the deaf and rings for the blind". November 2015.
- WeAreSUTD (2015). "Professor Suranga: The Engineer Dreams". April 2015.
- MSNBC (2014). "A device that could help the blind read". August 2014.
- Forbes (2014). "MIT's FingerReader Could Make Life Easier For The Blind". July 2014.
- Mashable (2014). "FingerReader Is a 3D-Printed Device That Reads Text Aloud to the Blind". July 2014.
- Fast Company (2014). "This Decoder Ring Helps The Blind Read Without Braille". July 2014.
- Business Insider (2014). "A New Type Of Ring Worn On The Finger Eliminates The Need For The Blind To Learn Braille". July 2014.
- IFL Science! (2014). "New Finger Device Reads Books To The Blind". July 2014.
- Huffington Post (2014). "This Ring Reads Books And Magazines To The Blind". July 2014.
- Associated Press (2014). "MIT Finger Device Reads to the Blind in Real Time". July 2014.
- Wired (UK) (2014). "3D-printed ring reads out text in real-time for the blind". July 2014.
- TechCrunch (2014). "MIT's FingerReader Helps The Blind Read With A Swipe Of A Digit". April 2014.
- Lianhe Zaobao (2014). "300 Students Unite To Light-up Marina Bay". February 2014.
- The Singapore Engineer Magazine (2014). "Interactive lighting experiences at *i Light Marina Bay 2014*". September 2014.
- Gizmodo (2014). "This Ring Scans Text And Reads It Aloud For Visually Impaired People". February 2014.
- Discovery News (2014). "Finger Computer Reads Books Aloud". February 2014.
- TIME (2014). "MIT Researchers Design Ring To Help Visually-Impaired People Read". February 2014.
- Daily Mail (2014). "The ring that READS for you: Finger-worn gadget reads aloud when you point at words - and can even translate books". February 2014.
- RazorTV (2013). "Stick-on device helps the deaf to 'hear'". May 2013.
- Gizmag (2012). "Camera-toting EyeRing could help blind people to 'see' objects". August 2012.
- Technology Review (2012). "Augmented Reality, Wrapped Around Your Finger". August 2012.
- Engadget (2012). "EyeRing finger-mounted connected cam captures signs and dollar bills, identifies them with OCR (hands-on)". April 2012.
- National University of Singapore Research Gallery (2009). "New technology to help the deaf enjoy music". July 2009.
- National University of Singapore Research Gallery (2009). "Hearing through sight". June 2008.

Books, Magazines and Newspapers

- Bright 2 by Frame Publishers (2015). "Architectural Illumination and Light Installations". Carmel McNamara. Frame Publishers. ISBN: 9491727419.
- Straits Times, Singapore (2014). "Wear this ring to listen what's written". August 2014.
- Lianhe Zaobao, Singapore (2014). "300 Students Unite To Light-up Marina Bay". February 2014.
- Straits Times, Singapore (2013). "Wireless device lends a listening ear". May 2013.
- Innovation: The magazine of Research & Technology (2010). "New Technology to Help the Hearing Impaired Enjoy Music". December 2010.
- Straits Times, Singapore (2009). "A chair that's music to deaf ears". July 2009.
- The Island, Sri Lanka (2008). "Haptic Chair hearing for the deaf". December 2008.

Television and Radio

- BBC (2016). "Horizons", Sharper Senses: Devices mimicking our natural senses. June 2016. <http://www.bbc.com/special/features/horizonsbusiness/seriesix/sharper-senses/?vid=p03xpgvm>
- CCTV (2016). Technology enables people with disabilities. Feb 2016. <http://english.cntv.cn/2016/02/23/VIDEADIXyUqgEQ0Ya9RRn9Pj160223.shtml>
- Japanese TV program Gloval vision (2014). "Inventor", "Global Vision" documentary program. September 2014. BS TwellV World High Definition Television, Inc. www.twellv.co.jp/minogashi/f1v_gv_149_1m.html
- Fox Business News (2014). "Wearable device helps you read with your finger". February 2014.
- SUTD Video Series (2012). "Prof Suranga - Against the Odds". August 2012.
- Sri Lanka Rupavahini (2010). "Interview at Adaraneeya Yawwanaya". April 2010.
- RTL, CVB TV (2014). "Der Ring, der lesen kann [The ring that can read]". August 2014.
- Fox 10 (2014). "New Invention: FingerReader". July 2014.
- c|net (2014). "Tomorrow Daily: Reading with Your Finger". July 2014.
- Associated Press. "Seeing-Eye Ring Helps Blind Read With Finger". July 2014.
- Reuters Videos (2014). "A ring that reads text for the blind". 2014.
- RazorTV (2013). "Stick-on device helps the deaf to hear" July 2013.