

# Suranga NANAYAKKARA

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## EDUCATION

<b>Ph.D., Engineering</b> 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	2005 - 2009
<b>BEng. (1st class honours)</b> 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	2001 - 2005
<b>G.C.E. Advanced Level</b> Royal College, Colombo 7, Sri Lanka. Obtained the countrywide 5th rank out of 180,000 candidates	2000

## PROFESSIONAL EXPERIENCE

<b>Associate Professor</b> Auckland Bioengineering Institute, University of Auckland.	2018 - Present
<b>Visiting Associate Professor</b> Engineering Product Development Pillar, Singapore University of Technology and Design.	2018 - Present
<b>Assistant Professor</b> Engineering Product Development Pillar, Singapore University of Technology and Design.	2011 - 2018
<b>Co-Founder</b> E'nnovate, Pvt Ltd., Sri Lanka.	2017- Present
<b>Co-Founder &amp; Director</b> ZuZu Labs, Pte Ltd., Singapore.	2017- Present
<b>Co-Founder &amp; Director</b> Cyrup, Pte Ltd., Singapore.	2016- Present
<b>Academic Advisor</b> CreateLab, Pte Ltd., Singapore.	2014- Present
<b>External Examiner</b> Automation & Mechatronic Systems Course, Ngee Ann Polytechnic, Singapore.	2013 - 2018
<b>Associate Faculty</b> School of Science and Technology, SIM University, Singapore.	2012 - 2014
<b>Hostel Fellow</b> Six degrees Student Hostel, Singapore University of Technology and Design.	2011 - 2015
<b>Visiting Assistant Professor</b> Fluid Interfaces Group, MIT Media Lab. Collaborated with Prof. Pattie Maes	2011-2012
<b>Research Fellow</b> Interactive and Digital Media Institute, National University of Singapore. Advised by Prof. Lonce Wyse.	2011
<b>Postdoctoral Associate</b> Fluid Interfaces Group, MIT Media Lab. Advised by Prof. Pattie Maes.	2010-2011
<b>Research Engineer</b> Marine Mammal Research Laboratory, National University of Singapore.	2009-2010

## HONORS & AWARDS

<b>Finalist, World Changing Ideas Award by FastCompany</b> In recognition of the research project FingerReader.	2018
<b>Best Short Paper Award, AH'17</b> In recognition of the research paper 'InSight: A Systematic Approach to Create Dynamic Human-Controller-Interactions' presented at the 8th Annual Augmented Human International Conference.	2017
<b>Excellence in Research</b> Awarded by SUTD, in recognition of research excellence over a period of time with impact in scholarly field, interdisciplinary contributions across fields, broader impact to society, translation to practice, commercialisation, and teaching practice.	2016
<b>INK Fellow</b> 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
<b>Most Promising Technology Award</b> Awarded for the Project zSense at InnoveFest unBound 2016, South East Asia's largest innovation festival.	2016
<b>Singapore Design Award (Product - Gold Category)</b> 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
<b>Steve Howard Award for Best Paper, OZCHI'16</b> In recognition of the research paper 'MuSS-Bits: Sensor-Display Blocks for Deaf People to Explore Musical Sounds.' presented at the 27th Annual CHISGI Australian Computer-Human Interaction Conference.	2016
<b>The Ten Outstanding Young Persons of Sri Lanka (TOYP) award</b> An award given by Junior Chamber International Sri Lanka for outstanding achievement in Scientific and Technological Development.	2015
<b>Young Innovator under 35 (MIT TR35) award, Asia Pacific region</b> An award given by MIT Technology Review for top young innovators under the age of 35.	2014
<b>Best Paper, OZCHI'14</b> 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
<b>Finalist, Singapore Challenge, GYSS'14</b> In recognition of the white paper 'Smart adaptive interfaces for ageing gracefully' submitted to Global Young Scientist Summit 2014.	2014
<b>NUS Research Scholarship</b> A full scholarship awarded by the National University of Singapore to pursue Doctoral research.	2005-2009
<b>Most Valuable Player (MVP) of the year</b> Awarded in recognition of outstanding contribution towards the promotion of cricket in the National University of Singapore.	2008
<b>Engineering Dean's List of Excellence</b> Awarded by National University of Singapore in recognition of the outstanding academic results.	2002
<b>NUS Undergraduate Scholarship</b> A full scholarship awarded by the National University of Singapore to pursue undergraduate studies.	2001-2005
<b>Best Student of the College (academic)</b> 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

## REFEREED PUBLICATIONS

h-index:15 • Citations: 657

Source: Google Scholar (<https://scholar.google.com.sg/citations?user=G0JugenpCgwC>)

### Books

**Nanayakkara, S. C.**, Huber, J. and Maes, P. 2015. Assistive Augmentation. Edited volume on Cognitive Science and Technology book series. **Springer** (Expected date of publication, Dec 2017).

### Peer-reviewed Journal Papers & Book Chapters

Juan Pablo, J., Fernando, P., Sridhar, P., Withana, A., **Nanayakkara, S. C.**, Steimle, J. and Maes, P. 2016. PostBits: using contextual locations for embedding cloud information in the home. **Personal and Ubiquitous Computing**, 1-14.

Petry, B., Huber, J. and **Nanayakkara, S. C.** 2016. Scaffolding the Music Listening and Music Making Experience for the Deaf. Assistive Augmentation. Edited volume on Cognitive Science and Technology book series. **Springer** (to appear).

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.

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.

**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.

### Peer-reviewed Conference Papers (Long Papers)

Boldu, R., Dancu, A, Matthies, D. J. C.,Buddhika,T, Siriwardhana, S. and **Nanayakkara, S. C.** 2018. FingerReader2.0: Designing and Evaluating a Wearable Finger-WornCamera to Assist People with Visual Impairments while Shopping. In **Proceedings of International Conference on Ubiquitous Computing**(Singapore, October 8–12, 2018). UbiComp'18. ACM, New York, NY, (to appear).

Sridhar, P. K., Chan, W. T. S., and **Nanayakkara, S. C.** 2018. Going beyond performance scores: understanding cognitive-affective states in kindergarteners. In **Proceedings of the 17th ACM Conference on Interaction Design and Children**. (Trondheim, Norway, June 19–22) IDC '18. ACM, New York, NY, USA, 253-265.

Rod, J. Collins, D. Ai, Y. Lee, H. and **Nanayakkara, S. C.** 2017. UTAP-Unique Topographies for Acoustic Propagation: Designing Algorithmic Waveguides for Sensing in Interactive Malleable Interfaces. In **Proceedings of the 11th International Conference on Tangible, Embedded and Embodied Interactions** (Yokohama, Japan, March 20–23, 2017). TEI'17. ACM, New York, NY, 141-152.

Petry, B., Illandara, T. and **Nanayakkara, S. C.** 2016. MuSS-Bits: Sensor-Display Blocks for Deaf People to Explore Musical Sounds. In **Proceedings of the 27th Annual CHISGI Australian Computer-Human Interaction Conference** (Tasmania, Australia, Nov 29– Dec 2, 2016). OZCHI'16. ACM, New York, NY.72–80.[**Best Paper Award**]

Ploderer, B., Fong, J., Withana, A., Klaic, 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 on Designing Interactive Systems** (Brisbane, Australia June 4–8, 2016). DIS'16. ACM, New York, NY. 700–711.

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** (Saarbrcken, 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**].

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** (StAndrews, UK, October 8–11, 2013). UIST'13. ACM, New York, NY. 221–226.

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.

### Peer-reviewed Conference Papers (Short Papers)

Boldu, R., Zhang, H., Cortes, J., P., F., Muthukumarana, S. and Nanayakkara, S. C.. 2017. InSight: a systematic approach to create dynamic human-controller-interactions. In **Proceedings of the 8th Augmented Human International Conference** (San Jose, USA, March 16–28, 2017). AH'17. New York, NY. Article No. 26. [**Best Paper Award**]

Elvitigala, S., Peiris, R., Wilhelm, E., Foong, S. and Nanayakkara, S. C.. 2017. GrabAmps: grab a wire to sense the current flow. In **Proceedings of the 8th Augmented Human International Conference** (San Jose, USA, March 16–28, 2017). AH'17. New York, NY. Article No. 30.

Nanayakkara, S. C., Schroepfer, T., Wyse, L., Lian, A. and Withana, A. 2017. SonicSG: from floating to sounding pixels. In **Proceedings of the 8th Augmented Human International Conference** (San Jose, USA, March 16–28, 2017). AH'17. New York, NY. Article No. 21.

Sridhar, P., Nanayakkara, S. C., and Huber, J. 2017. Towards understanding of play with augmented toys. In **Proceedings of the 8th Augmented Human International Conference** (San Jose, USA, March 16–28, 2017). AH'17. New York, NY. Article No. 22.

Sridhar, P., Petry, B., Pavithren, V. S., Kartolo, A. S. and Nanayakkara, S. C. 2016. Towards One-Pixel-Displays for Sound Information Visualization. In **Proceedings of the 27th Annual CHISGI Australian Computer-Human Interaction Conference** (Tasmania, Australia, Nov 29– Dec 2, 2016). OZCHI'16. ACM, New York, NY. 91–95.

Elvitigala, S., Wessolek, D., Achenbach, A. V., Singhabahu, C. and Nanayakkara, S. C. 2016. SwimSight:

- Supporting Deaf Users to Participate in Swimming Games. In **Proceedings of the 27th Annual CHISGI Australian Computer-Human Interaction Conference** (Tasmania, Australia, Nov 29– Dec 2, 2016). OZCHI'16. ACM, New York, NY. 567–570.
- Fan, K., Seigneur, J. M., Guislain, J., **Nanayakkara, S. C.** and Inami, M. 2016. Augmented Winter Ski with AR HMD. In **Proceedings of the 7th Augmented Human International Conference** (Geneva, Switzerland, February 25–26, 2016). AH'16. New York, NY. Article No. 34.
- Fan, K., Seigneur, J. M., **Nanayakkara, S. C.** and Inami, M. 2016. Electrosmog Visualization through Augmented Blurry Vision. In **Proceedings of the 7th Augmented Human International Conference** (Geneva, Switzerland, February 25–26, 2016). AH'16. New York, NY. Article No. 35.
- 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. 575–578.
- 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. 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.

## RESEARCH GRANTS

### External

**Human Machine Interfaces and Technology Development for Collaborative Control of Unmanned Systems**. Funded by Defence Science and Technology Agency (DSTA). Nov 2017–February 2018.

Funded Amount: SGD 200,000 (AY1: 200,000 AY2: 0)

Amount under direct supervision: SGD 50,000 (AY1: 50,00 AY2: 0)

Role: Co-Investigator (30% contribution); PI: Tan U-Xuan

**A novel touch-based bilingual intervention to stave off cognitive decline in the elderly: The Dual-Language Intervention in Semantic Memory-Computerised (DISC)**. Funded by Ministry of Health. April 2017–April 2020.

Funded Amount: SGD 773,558 (AY1: 224,435 AY2: 270,947 AY3: 278,176)

Amount under direct supervision: SGD 118,620 (AY1: 0 AY2: 118,620 AY3: 0)

Role: Co-Investigator (30% contribution). PI: Yow Wei Quin

**Research gift from Samsung for Surangas Augmented Human Lab research activities.** Funded by Samsung Research America. Nov 2016–Nov 2018.

Funded Amount: SGD 28,386 (AY1: 28,386 AY2: 0)

Amount under direct supervision: SGD 28,386 (AY1: 28,386 AY2: 0)

Role: Principal Investigator (100% contribution)

**The FingerReader.** Funded by Tote-board Enabling Lives Initiative (TB-ELI). Nov 2016–April 2019.

Funded Amount: SGD 787,862 (AY1: 288,208 AY2: 314,758 AY3:184,896)

Amount under direct supervision: SGD 787,862 (AY1: 288,208 AY2: 314,758 AY3:184,896)

Role: Principal Investigator (100% contribution)

**Language, Cognitive Load, Stress Appraisal and Engineering Design Applications.** Funded by Ministry of Education (Tire 1). Dec 2015–Dec 2017.

Funded Amount: SGD 174,742 (AY1: 114,742 AY2: 60,000)

Amount under direct supervision: SGD 20,000 (AY1: 0 AY2: 20,000)

Role: Co-Investigator (30% contribution). PI: Yow Wei Quin

**zSense: zSense:A novel technology to allow shallow depth gesture recognition on smart wearables.** Funded by SMART Innovation Grant. Mar 2016–Feb 2017.

Funded Amount: SGD 216,300 (AY1: 216,300)

Amount under direct supervision: SGD 216,300 (AY1: 216,300)

Role: Principal Investigator (100% contribution)

**Improved Cognitive Performance by Design.** Funded by Ministry of Defence (MINDEF), Singapore under DIRP program. Aug 2015–Dec 2018.

Funded Amount: SGD 1,113,700 (AY1: 333,600, AY2: 358,200 AY3: 328,200 AY4: 113,160)

Amount under direct supervision: SGD 556,850 (AY1: 166,800, AY2: 179,100 AY3: 164,100 AY4: 56,580)

Role: Principal Investigator (80% contribution); co-PIs: Yow Wei Quin, Hyowon Lee.

**Exploration of Object Fingerprint Technology.** Funded by NEC, Japan. April 2015–Sep 2015.

Funded Amount: SGD 22,400 (AY1: 22,400)

Amount under direct supervision: SGD 22,400 (AY1: 22,400)

Role: Principal Investigator (100% contribution)

**zSense: A novel technology to allow shallow depth gesture recognition on smart wearables.** Funded by SMART Ignition Grant. June 2015–May 2016.

Funded Amount: SGD 57,600 (AY1: 57,600)

Amount under direct supervision: SGD 57,600 (AY1: 57,600)

Role: Principal Investigator (100% contribution)

**SCAPE: SeCure ultimAte Payment Experience.** Funded by Gilmour Space Corporation. Jan 2015–Sep 2015.

Funded Amount: SGD 60,200 (AY1: 60,200)

Amount under direct supervision: SGD 60,200 (AY1: 60,200)

Role: Principal Investigator (100% contribution)

**Sonic SG.** SG50 Celebration Fund. Ministry of Culture, Community and Youth (MCCY). Jan 2015–Dec 2015.

Funded Amount: SGD 49,000 (AY1: 49,000)

Amount under direct supervision: SGD 20,000 (AY1: 20,000)

Role: Principal Investigator (40% contribution); co-PIs: Thomas Schroepfer, Lonce Wyse (NUS).

**Personalized and Continuous Rehabilitation via Serious Gaming.** Funded by Project GREaT, Media Development Authority. April 2013–Dec 2014.

Funded Amount: SGD 347,500 (AY1: 175,000, AY2: 172,500)

Amount under direct supervision: SGD 170,000 (AY1: 85,000, AY2: 85,000)

Role: Co-Investigator (50% contribution); co-PI: Jason Gu

**SHRUG: Stroke Haptic Rehabilitation Using Gaming.** Funded by Project GREaT, Media Development Authority. Oct 2014–Sept 2017.

Funded Amount: SGD 436,000 (AY1: 150,000, AY2: 112,000 AY3: 174,000)

Amount under direct supervision: SGD 436,000 (AY1: 150,000, AY2: 112,000 AY3: 174,000)

Role: Principal Investigator (100% contribution);

**Singapore's National Experiment.** Funded by National Research Foundation (NRF) of Singapore. Feb 2015–Mar 2015.

Funded Amount: SGD 5,498,684 (AY1: 4,119,382, AY2: 688,172, AY3: 541,130)

Amount under direct supervision: SGD 80,000 (AY1: 0, AY2: 40,000, AY3: 40,000)

Role: Co-Investigator (5% contribution), co-PIs: Erik Wilhelm, Nils Tippenhauer, Shaohui Foong, Soh Gim Song, Tan U-Xuan, Clarence Sirisena (SC), Eugene Wambeck (SC), Saminathan Gopal (SC), Mohan Elara, Priji Balakrishnan, Hyungkyoo Kim, Alessandro Romagnoli (NTU), Michel Alexandre Cardin (NUS), Kris Wood

## Internal

**Design and development of pressure ulcer prevention device customized for Accident & Emergency environment.** Funded by SUTD CGH Healthcare Innovation Fund. Jan 2016–Jan 2017.

Funded Amount: SGD 115,500 (AY1: 115,500)

Amount under direct supervision: SGD 86,400 (AY1: 86,400)

Role: Principal Investigator (80% contribution); co-PIs: Foong Shaohui, Wong Kok Cheong.

**SwimSight (A Device to Enable Swimming Games at National Deaf Games 2016).** Funded by SUTD-MIT International Design Centre (IDC). May 2015–Oct 2016.

Funded Amount: SGD 5,520 (AY1: 5,520)

Amount under direct supervision: SGD 5,520 (AY1: SGD 5,520)

Role: Principal Investigator (100% contribution)

**Gesture Based 3D Modelling Conceptual Architectural Design.** Funded by SUTD-MIT International Design Centre (IDC). Oct 2015–Sep 2016.

Funded Amount: SGD 100,000 (AY1: 100,000)

Amount under direct supervision: 0 (AY1: 0)

Role: Co-Investigator (10% contribution), co-PI: Bige Tuncer

**The FingerReader.** Funded by SUTD-MIT IDC Pinnacle of Design Grant. June 2015–May 2016.

Funded Amount: SGD 95,400 (AY1: 95,400)

Amount under direct supervision: SGD 95,400 (AY1: 95,400)

Role: Principal Investigator (100% contribution)

**A Flexibe, secure SmartGrid platform and sensor technology.** Funded by SUTD-MIT International Design Centre (IDC). Jan 2015–Dec 2015.

Funded Amount: SGD 43,200 (AY1: 43,200)

Amount under direct supervision: SGD 21,600 (AY1: 21,600)

Role: Co-Investigator (50% contribution), co-PI: Erik Wilhelm

**Design and Development of an in-situ Early Blood Leakage Detection Device.** Funded by SUTD CGH Healthcare Innovation Fund. Aug 2014–Feb 2016.

Funded Amount: SGD 93,500 (AY1: 71,000, AY2: 22,500)

Amount under direct supervision: SGD 44,500 (AY1: 34,500, AY2: 10,000)

Role: Co-Investigator (40% contribution); co-PIs: Foong Shaohui, Chionh Chang Yin, Ng Chee Yong.

**Injury prevention and ambient health monitoring strategies using pervasive wearable interfaces.** Funded by Singapore University of Technology and Design, EPD SRG 2011 009. Aug 2011–July 2015.

Funded Amount: SGD 100,000 (AY1: 3,000, AY2: 34,250, AY3: 52,750, AY4: 10,000)

Amount under direct supervision: SGD 100,000 (AY1: 3,000, AY2: 34,250, AY3: 52,750, AY4: 10,000)

Role: Principal Investigator (100% contribution)

**Designing Multisensory, Intelligent Interfaces for people with Sensory Impairments.** Funded by SUTD-MIT International Design Centre (IDC), July 2011–December 2014.

Funded Amount: SGD 794,413

Amount under direct supervision: SGD 525,630 (AY1: 99,400, AY2: 183,000, AY3: 201,300, AY4: 41,930)

Role: Principal Investigator (90% contribution), co-PI: Pattie Maes (MIT)

**Making Sense: Intersecting Lines of Investigation in Design and Technology.** Funded by SUTD-MIT International Design Centre (IDC). Oct 2014–Mar 2015.

Funded Amount: SGD 22,107 (AY1: 22,107)

Amount under direct supervision: SGD 11,000 (AY1: 11,000)

Role: Co-Investigator (50% contribution), co-PI: Thomas Schroepfer

**Upgrade of Audio Recording Studio for Acoustic Research.** Funded by SUTD-MIT International Design Centre (IDC) Infrastructure Grant. Oct 2016–Feb 2017.

Funded Amount: SGD 79,422 (AY1: 79,422)

Amount under direct supervision: N.A. as this is an infrastructure grant

Role: Co-Investigator (10% contribution), co-PIs: Jer-Ming Chen, Simon Lui, Yow Wei Quin, Ulf Heinrich Bissbort,



Ngai-Man Cheung and Hyowon Lee.

**The SUTD iDiA Lab mobile app development kit.** Funded by SUTD-MIT International Design Centre (IDC) Infrastructure Grant. Aug 2013–Mar 2014.

Funded Amount: SGD 118,620 (AY1: 118,620)

Amount under direct supervision: N.A. as this is an infrastructure grant

Role: Co-Investigator (15% contribution), co-PIs: Cheung Ngai-man, Stanley Kok, Jason Gu, Simon Lui, Justin Ruths

**Optical Motion Tracking and Capture System.** Funded by SUTD-MIT International Design Centre (IDC) Infrastructure Grant. Aug 2013–Mar 2014.

Funded Amount: SGD 400,000 (AY1: 400,000)

Amount under direct supervision: N.A. as this is an infrastructure grant

Role: Co-Investigator (5% contribution), co-PIs: Foong Shaohui, Soh Gim Song, Sai Kit Yeung, Yow Wei Quin, Tan U-Xuan, Mohan Rajesh Elara, Ngai-Man Cheung, Bige Tuncer, Katja Holtta Otto, Ricardo Sosa, Justin Ruths, Chong Keng Hua

**Laser Cutters.** Funded by SUTD-MIT International Design Centre (IDC) Infrastructure Grant. Oct 2014–Mar 2015.

Funded Amount: SGD 125,000 (AY1: 125,000)

Amount under direct supervision: N.A. as this is an infrastructure grant

Role: Co-Investigator (10% contribution), co-PIs: Chen Lujie, Foong Shaohui, Sai Kit Yeung, Tan U-Xuan, Yuen Chau, Sawako Kaijima

## INVITED TALKS, LECTURES & PRESENTATIONS

<b>APMEC 2018</b> Plenary Speaker, 15th Asia Pacific Medical Education Conference (APMEC), January, 2018, Singapore.	2018
<b>Sarvodaya-Fusion Awards Ceremony</b> Chief Guest & keynote Speaker, Sarvodaya fusion awards, December, 2017, Colombo, Sri Lanka.	2017
<b>YouLead 2017</b> Guest Speaker, Youth Employment and Business Start-up Program (YouLead!), December, 2017, Colombo, Sri Lanka.	2017
<b>IEEE WIE</b> Keynote Speaker, IEEE Women in Engineering (WIE) International Leadership Summit, October, 2017, Colombo, Sri Lanka.	2017
<b>INK Conference 2016</b> Selected INK Fellow, "Humanizing Technology", INK Conference 2016, Goa, India.	2016
<b>TEDxYouth@Palmerston 2016</b> Guest Speaker, "Universal Design Enables Everyone", TEDxYouth@Palmerston Event, Palmerston, Australia.	2016
<b>VISUAL SG Forum</b> Invited Speaker, "Initial step towards Assistive Augmentation", Visual SG Forum, Science Center, Singapore.	2016
<b>E2 Connect</b> Invited Speaker, "Redefine Disability", IT/AT forum about tech adoption for people, SGenable, Singapore.	2016
<b>SLAAS 2015</b> Guest Speaker, "Wealth Creation through Science", Theme Seminar of the Sri Lanka Association for the Advancement of Science (SLAAS), Sri Lanka	2015
<b>University of Melbourne 2015</b> Speaker, IDL seminar series, "Initial steps towards Assistive Augmentation", The Microsoft Research Centre for Social Natural User Interfaces, University of Melbourne.	2015
<b>IIUPST 2015</b> Keynote: Initial steps towards Assistive Augmentation.	2015
<b>Augmented Human 2015</b> Speaker, Invited panel session, Augmentation and Singularity: The Future of Augmented Human.	2015
<b>CAPT International Student Symposium</b> 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
<b>MIT Global Startup Labs</b> Invited lecture, "Prototyping and Concept Videos". MIT GSL, Sri Lanka 2014.	2014
<b>University of Colombo, Sri Lanka</b> Invited lecture, "Graduate Research Opportunities in HCI". Department of Electronics and Telecommunications Lecture Series.	2014
<b>University of Moratuwa, Sri Lanka</b> Invited lecture, "Graduate Research Opportunities in HCI". Department of Computer Science Lecture Series.	2014
<b>Urban Redevelopment Authority, Singapore</b> Invited speaker, "Light, Art in Today's context". i Light Symposium 2014.	2014
<b>Instituto Tecnológico Autónomo de México, Mexico</b> Invited Speaker, University Distinguished Lecture Series. "Initial Steps Towards Assistive Augmentation".	2013
<b>University of Moratuwa, Sri Lanka</b> Invited speaker, "Introduction to Sensory Augmentation". Department of Computer Science Lecture Series.	2013
<b>TechInnovation, Singapore Tech Fair</b> Invited speaker, "EyeRing: A Finger-worn Interface". Industry-technology matching event, Singapore.	2012
<b>Australian Computer-Human Interaction Conference, Australia</b> Speaker, "FingerDraw: Finger Turned into a Brush Connecting Digital and Physical Worlds". Flash Talk, OZCHI'12.	2012

## PATENTS

Petry, B., Pablo, J. and **Nanayakkara, S. C.** Muss-bits music-sensory-substitution bits. Singapore Provisional Patent Application: 10201610020P. Filing Date: 29 November 2016.

Elvitigala, S., Wessolek, D., Achenbach, A. V., Singhabahu, C. and **Nanayakkara, S. C.** SWIMSIGHT. Singapore Provisional Patent Application: 10201609054W. Filing Date: 28 October 2016.

Withana, A., Ransiri, S. and **Nanayakkara S. C.** Gesture Recognition Devices, Gesture Recognition Methods, And Computer Readable Media. US Provisional Patent Application: PCT/SG2015/050479 (second filing). Filing Date: 3 October 2016.

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. US Provisional Patent Application: PCT/SG2015/050479. Filing Date: 1 December 2015.

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 & TECHNICAL DEMONSTRATIONS

Withana, A., Ransiri, S., Kaluarachchi, T., Singhabahu, C., Yilei, S., Elvitigala, S. and **Nanayakkara, S. C.** 2016. Ultra Low Power Gesture Sensing Based on Selective Volumetric Illumination. **Demos of the ACM Symposium on User Interface Software and Technology** (Tokyo, Japan, October 16–19, 2016). UIST'16. ACM, New York, NY. 139–140.

Boldu, R., Manamperi, B., Buddhika, T., Ransiri, S., Shilkrot, R., **Nanayakkara, S. C.** and Maes, P. 2016. FingerReader. **Demos of the of the 27th Annual CHISGI Australian Computer-Human Interaction Conference** (Tasmania, Australia, Nov 29– Dec 2, 2016). OZCHI'16. ACM, New York, NY.

Petry, B., Illandara, T, Cortes, J. P. F. and **Nanayakkara, S. C.** 2016. Ad-Hoc Access to Musical Sound for Deaf Individuals. **Posters of the 18th international ACM SIGACCESS conference on Computers and accessibility** (Reno, Nevada, October 24–26, 2016). ASSETS'16. 285–286.

**Nanayakkara, S. C.**, Schroepfer, T., Boldu, R., Muthukumarana, S. Withana, A., Lian, A. 2016. RIBbon: Interactive light installation on Read Bridge at Clarke Quay, Singapore. Funded by Singapore River One. Dec 2015-Jan 2016.

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

## TEACHING, ADVISING STUDENTS & RESEARCHERS

### Teaching

**Assistant Professor, SUTD** 2012-Present

**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.

**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** 2013-Present

**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.

**Teaching Assistant, MIT Media Lab** 2012

**MAS672 New Paradigms in Human Computer Interaction.** Graduate course at MIT Media Lab. Teaching Assistant to Professor Pattie Maes, Spring 2012.

**Tutor, MIT ESG** 2012

**18.03 Linear Algebra.** Freshmore level course at MIT ESG. Recitation tutor to Dr. Gabrielle Stoy, Spring 2012.

**Guest Lectures** 2011-Present

**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.

### Student Supervision

#### PhD Theses

**Samantha Chan** 2017-Present

Engineering Product Development Pillar, Singapore University of Technology and Design  
Thesis Title: TBD

**Samitha Elvitigala** 2017-Present

Engineering Product Development Pillar, Singapore University of Technology and Design  
Thesis Title: TBD

**Shi Yilei** 2015-Present

Engineering Product Development Pillar, Singapore University of Technology and Design  
Thesis Title: TBD

**Priyashri Sridhar** 2015-Present

Engineering Product Development Pillar, Singapore University of Technology and Design  
Thesis Title: Towards Development and Evaluation of Tangible Interfaces that Support Learning in Children

**Benjamin Petry** 2013-Present

Engineering Product Development Pillar, Singapore University of Technology and Design  
Thesis Title: Designing Music-Sensory-Substitution Systems that Support Music-Making for People with Hearing Disabilities

Achievements:

- Best paper award, OZCHI 2016
- 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



## MEng Theses

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

## Undergraduate Theses

**Wang Xiaofan** 2017  
Department of Electrical & Computer Engineering, National University of Singapore  
Thesis Title: FingerReader for Language Learning

**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

## Postdoctoral Fellows

**Haimo Zhang** 2016-Present  
PhD, National University of Singapore

**Alexandru Dancu** 2016-Present  
Chalmers Technical University Gothenburg, Sweden

**Anusha Withana** 2014-2016  
PhD, Graduate School of Media Design, Keio University, Japan

**Daniel Wessolek** 2015-2016  
PhD, Bauhaus University Weimar, Germany

**Roshan Peiris** 2013-2015  
PhD, Department of Electrical & Computer Engineering, National University of Singapore

**Jochen Huber** 2013-2015  
PhD, Technische Universitat Darmstadt, Germany

**Iain Werry** 2013-2014  
PhD, Department of Cybernetics, University of Reading, England

## Research Engineers

**@ Augmented Human Lab, SUTD** 2011 - Present  
Yeo Kian Peen, Piyum Fernando, Santiago Ortega, Juan Pablo Forero Cortes, Thisum Buddhika, Hasitha Rajapakse, Roger Boldu, Attila Victor Achenbach, Shanaka Ransiri

## 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, Jonathan Ng Ming-En, Sanjay Pushparajan.

## Visiting Researchers

<b>MIT Media Lab</b> Pol Pla, Roy Shilkrot, Amit Zoran, Anirudh Sharma	2012 - Present
<b>MIT MISTI Global Leadership Program</b> Connie Liu, Lynn Takeshita, Ruth E. Park, Jessica A. Fang	2012 - Present
<b>University of Moratuwa</b> Anuruddha Hettiarachchi, Nipuna Samarasekara, Samitha Elvitigala, Nuwan Janaka, Vikum Wijesinghe, Hasantha Malavipathirana, Akshika Wijesundara, Thavishi Illandara, Tharindu Kaluarachchi, Chanaka Singhabahu, Sachith Muthukumarana, Buddhishan Manamperi, Chamod Weerasinghe.	2012 - Present
<b>Keio University</b> Kevin Fan, Tomoya Sasaki	2014
<b>University of California, Berkeley</b> Noura Howell, Tomas Vega	2017
<b>Singapore Polytechnic</b> Law Jiali	2012
<b>ITE College Central, Singapore</b> Colin Toh, Fatin Atiqah, Fang Chuxian	2016
<b>Chalmers University of Technology, Sweden</b> Christoffer Matsson	2016

## Competitions

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

## Undergraduate Mentorships

Li Yiyang, Chew Wei-Liang, Lange Gordon Victor, Chia Zhong Ying, Sherman Tan Xian Loong, Chia Wei Yin, Soong Hoe Yan Alex, Zhen Yi, Kai Wen Clement Chua, Yan Yee Jenette Pang, Vanessa Leong, Gan Jin Jye.	2011-Present
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## SERVICE

### Academic Related Professional & Public Services

**Editorial Boards** 2013-Present  
Human-Centric Computing and Information Sciences (HCIS) journal.  
Augmented Human Research journal.  
Advanced Robotics Journal.

**Professional Memberships** 2009-Present  
Member, Association for Computing Machinery (ACM)  
Member, Design Society  
President, Lanka Lions Cricket Club, Singapore (LLCC), 2015  
Vice-president, Lanka Lions Cricket Club, Singapore (LLCC), 2012-2015  
Secretary, Lanka Lions Cricket Club, Singapore (LLCC), 2010

**Conference Organization: Chairing** 2014-Present  
Steering Committee Member, Augmented Human International Conference (AH)| Technical Program Co-Chair, AH'17 | General Co-Chair, AH'15| Chair, CHI'14 workshop on Assistive Augmentation

**Conference Organization: Program Committees** 2012-Present  
CHI'18 | OZCHI'18 | ACM HAI'16 | ACM MM'16 Demo | CHI'15 WIP | OZCHI'14 | AH'14 | OZCHI'13 | OZCHI'12 | Mai-I 2013

**Conference Organization: Organising Committees** 2007-Present  
Spatial Audio for Mobile Devices Workshop in conjunction with MobileHCI'07

**Services as a Reviewer** 2010-Present  
ACM MM'17 AH'17 ||CHI'17 | OZCHI'16 | 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

**External Services: Volunteering** 2000-Present  
National Junior College (NJC) Future Challenge Competition, 2011  
SUTD Technology and Design Challenge, 2011  
Dr.Reijntjes School for the Deaf in Moratuwa, Sri Lanka  
National Council for the Deaf, Sri Lanka

### Internal 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 4 years (such appointments are typically for 2 years).

**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.

**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.

**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.

## SELECTED PRESS

### Web

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