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PROFILE

Dr. Fernando is a Senior Lecturer at the School of Computer Engineering at the Nanyang Technological University, Singapore. His research interests involve Human-Computer Interaction, Multimodal Interfaces & Interactive Systems, Natural Interfaces, and Entertainment & Mobile Computing. He has published his works in highly competitive Journals (MIT Press' journal "Presence," Oxford Press' journal "Interacting with Computers," and "IEEE Trans. Syst. Man and Cybern.") and prestigious conferences (ACM DIS, ACM CSCW, IEEE ISMAR, and ACM SIGGRAPH). His research was received several international awards, including awards from Laval Virtual Revolution and Nokia UbiMedia MindTrek. Dr. Fernando has been the recipient of the Japanese Government (MEXT: Monbukagakusho) Scholarship. Currently, he serves as Associate Editor for Entertainment Computing (Elsevier) and has previously served as guest editor of the AHCI Journal and Associate Editor for ACM CiE: Computers in Entertainment.

RESEARCH INTERESTS

Human-computer interaction, multimodal interfaces and interactive systems, crowdsourcing & social computing, and augmented & mixed reality

ACADEMIC QUALIFICATIONS

Degree	University	Period
Ph.D., Computer Science and Engineering	University of Aizu, Japan	2003 – 2006
M.Sc., Computer Science and Engineering	University of Aizu, Japan	2001 – 2003
B.Sc., Computer Science	University of Colombo, Sri Lanka	1994 – 1998

EMPLOYMENT HISTORY

Position	Company /Institution	Period
Senior Lecturer	Nanyang Technological University, Singapore	January 2015 – Present
Senior Research Fellow	Nanyang Technological University, Singapore	April 2012 – December 2014
Associate Faculty	SIM University	January 2010 – April 2012
Senior Research Fellow	National University of Singapore, Singapore	January 2011 – March 2012
Visiting Researcher	Kyoto University, Japan	October 2007 – May 2008

Visiting Researcher	University of Electro-Communications, Japan	April-2007 – April 2007
Research Fellow	National University of Singapore, Singapore	November 2006 – December 2010
Research Assistant	University of Aizu, Japan	October 2003 – September 2006
Teaching Assistant	University of Aizu, Japan	October 2001 – September 2003
Systems Analyst	Peoples Bank, Sri Lanka	December 1998 – August 2001
Part-time Instructor	University of Colombo, Sri Lanka	August 1998 – August 2001
Programmer	SCS Lanka, Sri Lanka	January 1998 – December 1998

TEACHING EXPERIENCE

Department/ University	Subjects	Level	Period
School of Computer Science and Engineering Nanyang Technological University (NTU), Singapore	Data Structures	Undergraduates	2015 – Present
	Multidisciplinary Design Project	Undergraduates	2015 – Present
	Software System Analysis and Design	Undergraduates	2017 – Present
	Human Computer Interaction	Undergraduates	2015 – Present
	Software Engineering	Undergraduates	2015 – 2016
	Human Computer Interaction	Graduate	2016 – Present
School of Science and Technology Singapore University of Social Sciences (Formerly SIM University), Singapore	Interactive Computer Graphics	Undergraduates	2010 – 2012
	Virtual Reality System	Undergraduates	2010 – 2012
Bachelor of Technology Programme National University of Singapore (NUS), Singapore	Software Engineering	Undergraduates	2010 – 2012
Department of Computer and Information Systems University of Aizu, Japan	Computer Music	Graduate	2003 – 2006
	Audio Interfaces	Graduate	2003 – 2006
	Programming in C++	Undergraduates	2001 – 2003
	Java Programming	Undergraduates	2001 – 2006
	Java 2D/3D graphics	Undergraduates	2001 – 2006
	Advanced Algorithms	Undergraduates	2001 – 2006
	Discrete Systems	Undergraduates	2001 – 2006
School of Computing University of Colombo, Sri Lanka	Java Programming	Diploma	1998 – 2001

SUPERVISORY EXPERIENCE (RESEARCHERS/ STUDENTS)

University	Researchers	Ph.D.	M.Sc.	Undergraduate	Interns
School of Computer Engineering, Nanyang Technological University, Singapore	3 (AIA)		8	30 (Examiner) 60 (Supervisor) 12 (URECA)	2
Department of Electrical Engineering, National Taipei University, Taiwan		1	5		
Bioengineering Institute, The University of Auckland, New Zealand			2		
COSMIC Center, Nanyang Technological University, Singapore	5	1			8
National University of Singapore, Singapore	10	4	2	20	10
Kyoto University, Japan	2			2	
University of Aizu, Japan				7	

GRANTS

1. CO-PI for the project “**The Hidden Shrines of Singapore: Mapping and Narrating Multi- Religious Heritages,**” NHB HRG Grants, S\$ 70,000 (2018).
2. Principal Investigator for the project titled “**Twitterer: Twitter speech synthesis with natural language processing,**” AcRF Tier 1 Grant, M4011802.020, S\$50,000.00 (2017).
3. CO-PI for the project “**Personalized interventions during e-lecture,**” NTU-EdeX Grants, M4082010.020, S\$ 40,000 (2017).
4. CO-PI for the project “**Productive Failure via Educational Games for Tertiary Education,**” MOE- TRF Grant: MOE2016-2-TR04, S\$ 285866.40 (2017).
5. Principal Investigator for the project titled “**Socially mediated augmented reality for enhanced user experience and customer engagement,**” Edge Lab initiative (AIA), M4061770.020, S\$148,000.00 (2016).
6. Principal Investigator for the project titled “**Assessing Source Code of Undergraduate/Postgraduate with Code Quality Assessment Tool (CQAT),**” NTU-Edex Grants, M4081772.020.500000, S\$18,000.00 (2016).
7. Collaborator for the project titled “**Potential Acceptance of a Mobile Phone Based Influenza Communication System among Adolescents, Parents, and Teachers: Role of Peers and Social Influence,**” MOE AcRF Tier 1, 2013-T1-002-062, S\$84,880.00(2013).
8. CO-PI for the project titled “**Research in Augmented Reality for Military Applications,**” (S\$1.88 million by Ministry of Defense (MINDEF), Singapore (2010).

RESEARCH COMMERCIALIZATION

1. **Technology Disclosure (TD 2018-225)** on Design and Implementation of Blockchain on Distributed Database System was licensed to the company CME Private Limited on August 8th, 2018 for **S\$70,000**. Latency of transaction is a core problem associated with all leading blockchain networks, which deviates most of the platforms from real time transaction processing capability (Bitcoin takes 10 minutes to verify a transaction). We incorporated blockchain features into fault tolerant, highly available and high throughput compatible Cassandra distributed database for this project.
2. **Technology Disclosure (TD/305/17)** on Eventify: Nearby Events was licensed to the company Newtonis Technologies Private Limited on March 2018 for **S\$1000**. This project suggests nearby events to the users based on common interests and proximity. It allows anyone to create an event via the platform and have it broadcasted

to potential participants in real-time.

3. **Technology Disclosure (TD/248/14)** on Socially Mediated System for Vector-Borne Diseases Surveillance, Engagement, and Communication was licensed to the SKOLL GLOBAL THREATS FUNDS on September 2017 for **S\$5000**. This project, called Mo—Buzz, a mobile participatory system for dengue surveillance which was launched in Colombo, Sri Lanka. This research received widespread publicity and news coverage in Sri Lanka (Sri Lankan Newspapers and TV channels over the period of March-April 2018). It has made significant impact in helping combating Dengue among schoolchildren with the ‘DengueFreeChild’ app. The app enables users to proactively report of Dengue or suspected Dengue fever so that action can be taken to the premises around which the infection is prevalent for mosquito breeding areas as well as to alert other parents to keep a keen eye on Dengue-like symptoms in their own children (www.youtube.com/watch?v=F4WPWRuAnP8).

CURRENT RESEARCH PROJECTS

My research multimodal interfaces and interactive systems, crowdsourcing & social computing, and augmented & mixed reality to provide seamless, intuitive, and better user experiences. Several research projects have taken this direction. Those projects are explained briefly in the following section.

1. **Mo-Buzz:** Mo-Buzz is a social media system which can be used to prevent dengue in Sri Lanka and potentially in the rest of the South and Southeast Asia. This work was published in prestigious journals including Acta Tropica Journal (Impact Factor: 2.218), Health Education & Behavior (Impact Factor: 2.312), and Medical Internet Research (Impact Factor: 4.532).
2. **Twittener:** Twittener aims to improve user experience of Twitter by proposing an alternative way to interact with Twitter, by allowing users to listen to interesting tweets, instead of the conventional way of reading them. This research is carrying out under **MOE Tier 1 Grant** (AcRF Tier 1 Grant, M4011802.020, S\$50,000.00 (2017)). An IRB application (IRB-2018-12-025) has been approved for this research. The initial version of this research was published in ACM Creativity & Cognition conference (C&C 2017).
3. **Assessing Source Code of Undergraduate/Postgraduate with Code Quality Assessment Tool (PI):** This project focuses on developing algorithms and introduces a set of metrics that are specific to assess the quality of undergraduate projects. This research is carrying out under **NTU-Edex Grant**, (M4081772.020.500000, S\$18,000.00 (2016)). The initial version of this research was published on 8th Annual International Conference on Computer Science Education: Innovation and Technology (CSEIT: 2017), Global Science and Technology Forum.
4. **Productive Failure via Educational Games for Tertiary Education:** The goal of this project is to develop a framework to design Tertiary Educational Games (TEGA). This framework will enable lecturers/tutors to create single/multi-user games capturing the essence of a lesson. This research is carrying out under the **MOE Tertiary Educational Research Grant** (MOE2016-2-TR04, S\$ 285866.40 (2017)).
5. **Personalized interventions during e-lecture:** This project develops machine-learning techniques that provide personalized, adaptive, and constructive feedback to the learner during an e-lecture. The research is carrying out under **NTU-EdeX Grant** (M4082010.020, S\$ 40,000 (2017)). The initial version of this research was published on 8th Annual International Conference on Computer Science Education: Innovation and Technology (CSEIT: 2017), Global Science and Technology Forum.
6. **Snake Alert Application:** Snake Alert is a public health communication research, aiming to assist users in reporting and being notified of snake sightings. A version of this research was published in 7th International Conference on Digital Health Conference (DH: 2017).
7. **Socially mediated augmented reality applications for user enhancement and customer engagement:** Engaged with **AIA Edge Lab (Edge Lab initiative (AIA) Grant** (M4061770.020, S\$148,000.00 [2016]) on producing novel interfaces and innovative user engagement methods to develop inventive and innovative research results. Two IRB applications (IRB-2016-08-019) were approved for this research and necessary user studies were successfully conducted. A preliminary version of this research has been submitted to 10th ACM SIGGRAPH Conference and Exhibition on Computer Graphics and Interactive Techniques in Asia.

AWARDS AND SCHOLARSHIPS

Several research projects have been received several international awards, including Nokia UbiMedia MindTrek and Laval Virtual Revolution. I have also been awarded with several highly competitive scholarships, including the prestigious Japanese Government (MEXT: Monbukagakusho) Scholarship.

1. "Twittener" received an honorary mentioning at the NTU Hackathon 2016, Collage of Engineering, Nanyang Technological University, and March 12, 2016.
2. "Smart Museum" received an honorary mentioning at the NTU Hackathon 2016, Collage of Engineering, Nanyang Technological University, March 12, 2016.
3. Research Commercialization via Spinoffs award for "Point and Search Augmented Reality Solution for Mobile Devices (NTU TD Ref: TD/254/13)," Nanyang Technological University, NTUitive Pte. Ltd, March 06, 2015.
4. Research Commercialization via Spinoffs award for "Socially Mediated System for Vector- Borne Diseases Surveillance engagement (NTU Ref: TD/248/14)," Nanyang Technological University, NTUitive Pte. Ltd, March 06, 2015.
5. "Sensing Environment through Mobile" received an honorary mentioning at the Neo Ubimedia MindTrek Awards, in Tampere Finland (2014).
6. "Selective Inductive Powering System for Paper Computing" won the first prize from the Nokia UbiMedia MindTrek Awards, Tampere, Finland (2011).
7. The paper titled "A Multimodal Virtual Anatomy Learning Tool for Medical Education," has been selected as the best paper for the session on 'Learning Technologies / Strategies for Assessing Student Learning and Teaching,' at the 2nd International Conference on Education, Training and Informatics (ICETI 2011), held in Orlando, Florida, USA(2011).
8. Poetry Mix-up: Winner of the "Integrated Art Competition", Land Transport Authority of Singapore (LTA), Awarded First Prize for "Poetry Mix-up," which is permanently installed at the Kent Ridge Station of the new subway "Circle Line", 2011.
9. "AmbiKraf" received an honorary mentioning at the Nokia UbiMedia MindTrek Awards, in Tampere Finland (2010)
10. Petimo: social networking robot for children, won the first prize in an international innovation competition in Milan Milan, Italy(2010)
11. Petimo: Winner of the C4C (Como for Children) Competition at IDC 2009 (The 8th International Conference on Interaction Design and Children): Learning and Playing in the pre-school of the future, Como, Italy (2009)
12. Babbage Cabbage: Babbage Cabbage Empathetic Living Media was one of three prize winners of the International NOKIA Ubimedia MindTrek Award(2008).
13. A paper describing a "Spatial Audio for Mobile interfaces" won the third prize (Demo Category) at the MobileHCI Conference, Singapore, September 2007.
14. Distinguished Laksakura Award from the Herath Foundation (Japan), 2001–2002.
15. Japanese Government Scholarship (MEXT: Gakushu-Shoreihi) for outstanding scholastic performance, 2002 – 2003.
16. Japanese Government Scholarship (MEXT: Monbukagakusho), 2004–2006.

PUBLICATIONS

My research has been accepted and published (h-index: 15) in highly competitive Journals (*Presence, Interacting with Computers, IEEE Trans. Syst. Man and Cybern., Acta Tropica, Medical Internet Research, and Health Education Research*) and prestigious conferences (ACM DIS, IEEE ISMAR, and ACM SIGGRAPH, ACM SIGCHI, and MobileHCI). Altogether, there are fifteen (15) technical disclosures, seven (7) book chapters, twenty two (25) journal papers, and over seventy (70) papers in international conferences.

Patents/Technical Disclosure

1. W. K. Ng, M. H. B. U. C. E. Bandara, M. H. S. Tharaka, and **O. N. N. Fernando**, "Design and Implementation of Blockchain on Distributed Database System," Filing Date: 30 July 2018, NTU Ref: 2018-225.
2. **O. N. N. Fernando**, V. U. Wanniarachchi, F. Nelin, and Y. Fernandopulle, "Mobile Based Museum Navigation System," Filing Date: 14 March 2017, NTU Ref: TD/070/17.
3. **O. N. N. Fernando**, Y. Fernandopulle, and NG W. K., "Twitter Speech Synthesis with Natural Language Processing," Filing Date: 09 March 2017, NTU Ref: TD/068/17.
4. **O. N. N. Fernando**, D. W. C. Hian and R. W. Meurzec "OCEAN Application Recommendation System," Filing Date: 08 March 2017, NTU Ref: TD/059/17.
5. A. Chattopadhyay and **O. N. N. Fernando**, "Trust Based Social Network For e-Commerce Transactions," Filing Date: 02 September 2016, NTU Ref: TD/288/16.
6. T. Y. Leng, **O. N. N. Fernando**, C. Deshan, and S. Foo, "AVOT - Automated Virtual Observation Therapy," Filing Date: 03 November 2014, NTU Ref: TD/305/14.
7. Y.M.K. Priyadarshana, S.P. Wimalaratne, **O. N. N. Fernando**, May O. Lwin, and S. Foo, "PWODS: Personalized Wearable Obstacle Detection System for Visually Impaired People," Filing Date: 27 October 2014, NTU Ref: TD/288/14.
8. May O. Lwin, **O. N. N. Fernando**, S. Vijaykumar, V. Rathnayake, and S. Foo, "Socially Mediated System for Vector-Borne Diseases Surveillance engagement," Filing Date: 18 September 2014, NTU Ref: TD/248/14.
9. R. Poovaiah, R. Motiyar, A. Poovaiah, and **O. N. N. Fernando**, "A Conductive Strip (CS) Enabled Reminder-Dispensing-Tracking System for Medicines," Filing Date: 10 February 2014, NUS ILO Ref: 14138N.
10. **O. N. N. Fernando**, C. Deshan, N. Pang, H. Y. Jack Jeffrey, and S. Foo, "Point-and-search Augmented Reality Solution for Mobile Devices," Filing Date: 17 October 2013, NTU Ref: TD/254/13.
11. **O. N. N. Fernando**, H. Y. J. Jeffrey, M. J. Rissanen, and S. Foo, "Help!Tag easy-to-use social media enabled help request system for eldercare," Filing Date: 23 April 2013, NTU Ref: TD/103/13.
12. M. J. Rissanen and **O. N. N. Fernando**, "Ubiquitous shortcuts – General purpose camera-based computer command method," Filing Date: 30 November 2012, Ref: PAT/149/12/12/US PRV.
13. **O. N. N. Fernando**, S. Foo, T. Y. Leng, H. Y. J. Jeffrey, R. Poovaiah, and A. S. Poovaiah, "CuePbox: Virtual and Physical Pillbox System," Filing Date: 02 August 2012, Ref: PAT/149/12/12/US PRV.
14. A. D. Cheok, **O. N. N. Fernando**, "Petimo - platform for social networking," Filing Date: 31 May 2010, Ref: 10139N-US/PRV.
15. A. D. Cheok, R. L. Peiris, K. S. Teh, **O. N. N. Fernando**, M. Tharakan, "An Embedded Nonemissive and Fast Changing Fabric Display," Filing Date: 5 February 2010, Ref: 09253N-US/PRV.

Journal Papers

1. May O.Lwin, S. Vijaykumar, V. Rathnayake, G. Lim, C. Panchapakesan, S. Foo, **O. N. N. Fernando** (2016). "A Social Media mHealth Solution to Address the Needs of Dengue Prevention and Management in Sri Lanka," *Journal of Medical Internet Research*, 18(7), e149. [Impact Factor (2015): 4.532]
2. May O. Lwin, S. Vijaykumar, S. Foo, **O. N. N. Fernando**, Lim, C. K. Panchapakesan, and P. Wimalaratne (2016). "Social media-based civic engagement solutions for dengue prevention in Sri Lanka: Results of receptivity assessment," *Health Education Research* (2016) 31 (1): 1-11. [Impact Factor: 1.667].
3. May O. Lwin, S. Vijaykumar, G. Lim, **O. N. N. Fernando**, V. S. Rathnayake, and S. Foo. "Baseline Evaluation of a Participatory Mobile Health Intervention for Dengue Prevention in Sri Lanka." *Health Education & Behavior* (2015): 1090198115604623. [Impact Factor: 2.312]
4. May O. Lwin, S. Vijaykumar, **O. N. N. Fernando**, Y. L. A. Cheong, V. S. Rathnayake, G. Lim, Y. L. Theng, S. Chaudhuri, S. Foo, "A 21st century approach to tackling dengue: Crowd-sourced surveillance, predictive mapping and tailored communication," *Acta tropica* 130 (2014): 100-107, 2014. [Impact Factor: 2.218].
5. H. A. Samani, E. Saadatian, N. Pang, D. Polydorou, **O. N. N. Fernando**, R. Nakatsu, and J.T. K. V. Koh,

- “CULTURAL ROBOTICS: The Culture of Robotics and Robotics in Culture,” *Int. J. adv. robot. syst.*, Vol. 10, 400:2013, 2013. [**Impact Factor: 0.526**]
6. R. L. Peiris, J. T. K. V. Koh, M. J. Tharakan, **O. N. N. Fernando**, and A. D. Cheok, “AmbiKraf Byobu: Merging Technology with Traditional Craft,” *Interacting with Computers*, Oxford University Press, February 6, 2013, doi:10.1093/iwc/iws013, 2013. [**Impact Factor: 1.410**]
 7. K. Zhu, H. Nii, **O. N. N. Fernando**, J. T. K. V. Koh, K. Aue, and A. D. Cheok, “Designing Interactive Paper-Craft Systems with Selective Inductive Power Transmission,” *Interacting with Computers*, Oxford University Press, February 13, 2013 doi:10.1093/iwc/iws019, 2013. [**Impact Factor: 1.410**]
 8. R. L. Peiris, M. J. Tharakan, **O. N. N. Fernando**, and A. D. Cheok, “AmbiKraf,” *Multimedia Tools and Applications*, Springer, ISSN: 1380-75013, 2012. [**Impact Factor: 1.530**]
 9. H. A. Samani, **O. N. N. Fernando**, and A. D. Cheok, “An Affective Interactive Audio Interface for Lovotics,” *CiE: Computers in Entertainment*, 2011.
 10. A. D. Cheok, H. A. Samani, **O. N. N. Fernando**, and Osamu Katai “Measuring Human Brain EEG Signals and Filtering with Fuzzy Logic for Speech Recognition in Human Therapy,” *IEEE Transactions on Instrumentation and Measurement*, 2011.
 11. K. Zhu, N. Ranasinghe, C. Edirisinghe, **O. N. N. Fernando**, and A. D. Cheok, “Poetry Mix-Up,” *CiE: Computers in Entertainment*, 2011.
 12. A. D. Aberathne, K. Zhu, N. Ranasinghe, C. Edirisinghe, **O. N. N. Fernando**, and A. D. Cheok, “Connected On and Off line Safe Social Networking for Children,” *CiE: Computers in Entertainment*, 2011.
 13. A. D. Cheok, R. T. K. C. Tan, R. L. Peiris, **O. N. N. Fernando**, K. S. Teh, I. J. P. Wijesena, S. Y. Ping, “Metazoa Ludens: Mixed Reality Interaction and Play for Small Pets and Humans,” *IEEE Trans. Syst., Man, Cybern. A, Syst., Humans*, 2011.
 14. A. D. Cheok, **O. N. N. Fernando**, D. Aberathne, C. Edirisinghe, N. Ranasinghe, K. Zhu, K. Karunanayaka, R. L. Peiris, and N. L. Ma “Petimo: Children’s companion for social networking,” *Journal of Japan society of Kansei Engineering*, vol. 10, no. 2, pages 86 - 90, 2011.
 15. M. Cohen, **O. N. N. Fernando**, U. C. Dumindawardena, and M. Kawaguchi, “Duplex Narrowcasting Operations for Multipresent Groupware Avatars on Mobile Devices,” *IJWMC: Int. J. of Wireless and Mobile Computing (Special Issue on Mobile Multimedia Systems and Applications)*, vol. 3, no. 4, 2009, pages 280 - 287, ISSN 1741-1084, 1741-1092.
 16. C. Edirisinghe, K. Zhu, N. Ranasinghe, E. T. Khoo, J. P. Wijesena, **O. N. N. Fernando**, and A. D. Cheok, “Modeling literary culture through interactive digital media,” *Virtual Reality*, Springer London, ISSN 1359-4338 (Print), 1434-9957 (Online)2009, DOI 10.1007/s10055-009-0147-9.
 17. A. D. Cheok, R. L. Peiris, C. L. Fernando, **O. N. N. Fernando**, and E. T. Khoo, “Energy and Touch-Information for Body-worn Ubiquitous Computing,” *International Journal of Energy Technology and Policy*, vol. 7, no. 2, pp 137-166, 2009.
 18. A. D. Cheok, M. Haller, **O. N. N. Fernando**, and J. P. Wijesena, “Mixed Reality Entertainment and Art,” *Int. Journal of Virtual Reality*, vol. 8, no. 2, pp. 83–90, 2009.
 19. A. D. Cheok, O. Michiko, **O. N. N. Fernando**, and T. Merritt, “Designing Cute Interactive Media,” *Innovation (Interactive Digital Media)*, vol. 8, no. 3, pp. 8–9, 2008.
 20. A. D. Cheok, H. Ishii, J. Osada, **O. N. N. Fernando**, and T. Merritt, “Interactive Play and Learning for Children,” *Int. Journal of Advances in Human-Computer Interaction (Special Issue on Interactive Play and Learning for Children)*, Hindawi Publishing Corporation, vol. 2008, Article ID 341615, 8 pages, 2008.
 21. A. D. Cheok, **O. N. N. Fernando**, J. P. Wijesena, A. R. Mustafa, A. K. Barthoff, and N. Tosa, “BlogWall: Social and Cultural Interaction for Children,” *Int. Journal of Advances in Human-Computer Interaction (Special Issue on Interactive Play and Learning for Children)*, Hindawi Publishing Corporation, vol. 2008, Article ID 954013,

3 pages,2008.

22. A. D. Cheok, **O. N. N. Fernando**, and L. Wei, "The Magical World of Mixed Reality," *Innovation*, vol. 8, no. 1, pp. 8–9, 2008.
23. M. Cohen, N. A. Bolhassan, and **O. N. N. Fernando**, "A Mixed Reality Application: A Multiuser Multiperspective Stereographic QTVR Browser Complemented by Java3D Visualizer and Emulator," *Presence: Teleoperators and Virtual Environments*, The MIT Press, vol. 16, no. 4, ISSN 1054-7460, August 2007.
24. **O. N. N. Fernando**, K. Adachi, U. Duminduwardena, M. Kawaguchi, and M. Cohen, "Audio Narrowcasting and Privacy for Multipresent Avatars on Workstations and Mobile Phones," *IEICE Trans. on Information and Systems*, vol. E89-D, no. 1, pp. 73–87, January 2006. ISSN 0916-8532
25. **O. N. N. Fernando**, M. Cohen, N. A. Bolhassan, D. Wanasinghe, and T. Kanno, "Mobile Control in Cyberspace of Image-based & Computer Graphic Scenes and Spatial Audio Using Stereo QTVR and Java3D," *3D Forum: J. of Three Dimensional Images*, vol. 16, no. 4, pp. 101–106, December 2002. ISSN 1342-2189.

Book Chapters

1. A. D. Cheok, **O. N. N. Fernando**, R. M. Narangoda, R. A. N. Ranasinghe, and S. G. Isuru, "Petimo: Safe Social Networking Robot for Children," *Educational Games: Design, Learning, and Applications*, ed. Frank Columbus. Nova Science Publishers, Inc., 2010.
2. A. D. Cheok, **O. N. N. Fernando**, R. A. N. Ranasinghe, Z. Kening, and C. P. D. Edirisinghe, "BlogWall: Promoting Social Communication through Mobile Technology in Sri Lanka," *Mobile Information Communication Technologies Adoption in Developing Countries: Effects and Implications*, ed. Professor Ahmed Gad Abdel-Wahab. IGI Global (Formerly Idea Group Inc), 2010.
3. M. Cohen and **O. N. N. Fernando**, "Audio Windowing Narrowcasting for Multipresent Privacy and Attention on Workstations and Mobile Phones," *Springer (Awareness Systems, "Human Computer Interaction Series,")*, pp. 259–289, 2009.
4. A. D. Cheok, **O. N. N. Fernando**, Z. Kening, C. P. D. Edirisinghe, E. T. Khoo, R. A. N. Ranasinghe, "Interactive Technology and Digital System to Explore Culture: Media Me, Blog-Wall and Confucius Computer," *Springer (Art and Technology of Entertainment Computing and Communication)*, ISBN: 978-1-84996-136-3, 2010.
5. A. D. Cheok, R. L. Peiris, C. L. Fernando, **O. N. N. Fernando**, K. C. Tan, J. P. Wijesena and A. S. Hooman, "Metazoa Ludens," *Springer (Art and Technology of Entertainment Computing and Communication)*, ISBN: 978-1-84996-136-3, 2009.
6. A. D. Cheok, **O. N. N. Fernando**, T. Merritt, Y. Morisawa, R. L. Peiris, C. L. Fernando, S. G. Isuru, A. I. Withana, C. P. D. Edirisinghe, R. A. N. Ranasinghe, Z. Kening, M. Daryathne, M. Danjo, M. Tuters, D. Aberathne, and R. M. Narangoda, "Cute Interactive System," *Springer (Art and Technology of Entertainment Computing and Communication)*, ISBN: 978-1-84996-136-3, 2010.
7. A. D. Cheok, **O. N. N. Fernando**, and L. Wei, "Interactive Theater Experience with 3D Captured Actors and Spatial Sound," *Springer (Art and Technology of Entertainment Computing and Communication)*, ISBN: 978-1-84996-136-3, 2010.

Conference Papers

1. N. Tian, V. T. Kanappan, J. H. Y. Jack, A. Fathima, **O. N. N. Fernando**, H. S. Soon, and A. Chattopadhyay (2018). "Manufactory: Promoting 3D Spatial Skills with Productive Failure and Educational Games," *Proc. of the Asian Conference on Education (ACE2018)*, Tokyo, Japan, 2018.
2. E. Bandara, W. K. Ng, K. D. Zoysa, **O. N. N. Fernando**, S. Tharaka, P. Maurakirathan, and N. Jayasuriya (2018). "Mystiko—Blockchain Meets Big Data," *Proc. of the IEEE International Conference on Big Data (Big Data)*, Seattle, WA, USA, 2018, pp. 3024-3032.
3. H. Liu, **O. N. N. Fernando**, J. P. Rajapakshe (2018). "Predicting Affective States of Programming Using

Keyboard Data and Mouse Behaviors," *Proc. of the 15th International Conference on Control, Automation, Robotics and Vision (ICARCV)*, Singapore, 2018, pp. 1408-1413.

4. P. Kusuma, V. U. Wanniarachchi, **O. N. N. Fernando**, and W.K. Ng (2018). "Audio Fingerprint Application for the Media Industry," *Proc. of the ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (UbiComp '18)*. ACM, New York, NY, USA, 114-117.
5. A. C. Mayong, V. U. Wanniarachchi, **O. N. N. Fernando**, and M.O.Lwin (2018). "GPS Trail Visualizer for Online Communities," *Proc. of the International Conference on Cyberworlds (CW)*, Singapore, 2018, pp. 164-167.
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 49. **O. N. N. Fernando**, A. D. Cheok, T. Merritt, R. L. Peiris, C. L. Fernando, R. A. N. Ranasinghe, M. I. W. Sandra, and K. T. Karunanayaka, “Babbage Cabbage: Biological Empathetic Media,” VRIC’09: Proc. of the Virtual Reality International Conference , ed. Simon Richir and Akihiko Shirai, Laval, France, April 22–26, 2009.
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 62. A. D. Cheok, **O. N. N. Fernando**, I. J. P. Wijesena,, A. R. Mustafa, A. K. Barthoff, and N. Tosa, “BlogWall: Displaying Artistic and Poetic Messages on Public Displays via SMS,” MobileHCI ’07: Proc. of the 9th Conf. on Human-Computer Interaction with Mobile Devices and Services, Singapore, September 2007.

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66. M. Cohen, **O. N. N. Fernando**, T. Nagai, and K. Shimizu, "'Back Seat Driver': Spatial Sound for Vehicular Way-Finding and Situation Awareness," *Proc. FCST 2006: Japan-China Joint Workshop on Frontier of Computer Science and Technology*, Aizu-Wakamatsu, Japan, pages 109-115, November 2006.
67. **O. N. N. Fernando** and M. Cohen, "Narrowcasting Attributes for Presence Awareness in Collaborative Virtual Environments," *Proc. CIT 2006: IEEE Int. Conf. on Computer and Information Technology*, Seoul, Korea, pp. 129-134, September 2006. ISSN 0-7695-2687-X.
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71. M. Cohen and **O. N. N. Fernando**, "Narrowcasting Attributes for Presence Awareness," *Proc. CHI'05 Wkshp. on Awareness Systems: Known Results, Theory, Concepts, and Future Challenges*, Portland, April 2005.
72. **O. N. N. Fernando**, K. Adachi, and M. Cohen, "Phantom Sources for Separation of Listening and Viewing Positions for Multipresent Avatars in Narrowcasting Collaborative Virtual Environments," *Proc. MNSA: Int. Wkshp. on Multimedia Network Systems and Applications (in conjunction with ICDCS: 24th Int. Conf. on Distributed Computing Systems)*, Hachioji, Tokyo, pp. 170-175, March 2004.
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74. A. D. Bolhassan, M. Cohen, **O. N. N. Fernando**, and W. L. Martens, "Image-based Stereoscopic Navigation in Collaborative Virtual Environments," *Proc. IWGMCV'03: Int. Wkshp. on Geometric Modeling, Computing, and Visualization*, University of Aizu, Aizu-Wakamatsu, Japan, July 2003.
75. N. A. Bolhassan, M. Cohen, W. L. Martens, **O. N. N. Fernando**, T. Kamada, H. Osaka, and T. Yoshikawa, "'Just Look At Yourself!': Stereographic Exocentric Visualization and Emulation of Stereographic Panoramic Dollying," *Proc. ICAT: Int. Conf. on Artificial Reality and Tele-Existence*, University of Tokyo, pp. 146-153, December 2002.
76. N. A. Bolhassan, M. Cohen, and **O. N. N. Fernando**, "Stereographic QTVR with Synchronized Spatial Audio," *IWEC2002: First Int. Wkshp. on Entertainment Computing*, Chiba, Japan, May 2002.

SERVICES

As an Invited Speaker

1. *Panel Member (Mid-Term Review)*: Behavioral Studies in the Energy, Water, Waste and Transportation Sectors (BSEWWT) Mid-Term Review (MTR) Panel, Singapore, March 6th, 2019.
2. *Keynote Speaker (Fully funded)*: The Eighteenth International Symposium on Spatial Media (ISSM'17-'18) 2018, Aizuwakamatsu, Japan, March 2-4, 2018.
3. *Invited Speaker*: NUS Industry Liaison Office's Special Interest Group (SIG) event on "Virtual, Mixed and Augmented Reality" October 2nd, 2009.
4. *Guest Speaker*: ITE International Student Seminar 2009 for the Youth Tek!, June 19th, 2009.
5. *Invited Speaker*: Minimally Invasive Surgery Symposium (MIS) in 41st Singapore-Malaysia Congress of Medicine, Singapore, July 19th–22nd, 2007. (Title: Operating Theater and Digital Age).
6. *Invited as a Contributor*: Wired NextFest 2007. "Metazoa Ludens" received the honor of being selected as the top 100 visionary and high impact technology works in the world by the USA based WIRED magazine, and I represented MXR lab to demonstrate "Metazoa Ludens" in the Wired NextFest, September 13th–16th, 2007.

As an Editor

1. *Associate Editor*: Entertainment Computing (ELSEVIER) (2013–present)
2. *Guest Editor*: Advances in Human-Computer Interaction : (AHCI: Issue on Computer Games in Education, 2012)
3. *Guest Editor* : Advances in Human-Computer Interaction : (AHCI: Issue on Interactive Play and Learning for Children, 2007)
4. *Associate Editor*: ACM Computers in Entertainment (2010 –2012)

As a Program Committee Member

1. *Program committee*: Springer ICEC: International Conference on Entertainment Computing (2010- Present)
2. *Program committee*: SIGCHI 2014: Workshop on Assistive Augmentation in ACM SIGCHI Conference on Human Factors in Computing Systems Factors in Computing Systems(2014)
3. *Program committee*: ACM ACE: Advances in Entertainment Computing (2007-2012)
4. *Program committee*: IEEE VR: Virtual Reality(2010-2012)
5. *Program committee*: International Symposium on VR Innovation(2011)

To Local and International Community

1. *Special Session Chair*: The International Conference on System Science and Engineering 2018 (ICSSE 2018), 28-30 June 2018, National Taipei University, Taiwan.
2. *Contributor*: Demonstrated 4 final year projects for NTU Open House, March 04, 2017
3. *Judge*: Singapore Science and Engineering Fair, March 08, 2017.
4. *Judge*: NTU Hackathon 2016, College of Engineering, Nanyang Technological University, March 12, 2016.
5. *NRP Committee member*: The Nanyang Research Programme(2015-2017)
6. *Publicity Co-Chair*: Advances in Computer Entertainment, (2011)
7. *Publicity Co-Chair*: IEEE Virtual Reality, Singapore(2011)
8. *Publicity Co-Chair*: International Symposium on VR Innovation(2011)
9. *Track Co-Chair*: Interactive Digital Media track in International Simulation And Gaming Association 40th Annual Conference(2008)

10. *Organizing Co-Chair*: Designing Cute Interactive Media Workshop in conjunction with DIS2008: Designing Interactive Systems (2008)
11. *Organizing Chair*: Interactive Design Art and Technology (An event of Ars Electronica, Creative Korea, and Interactive Tokyo), Science Center, Singapore, November 10th to December 31st 2007
12. *Organizing Chair*: Mixed Reality Entertainment and Art Workshop in conjunction with Sixth IEEE and ACM International Symposium on Mixed and Augmented Reality (2007)
13. *Organizing Chair*: Spatial Audio for Mobile Devices Workshop in conjunction with Ninth Int. Conf. on Human Computer Interaction with Mobile Devices and Services: Mobile- HCI'07, National University of Singapore, Singapore, Sep. 11th– 14th 2007.
14. *Organizing Co-Chair*: MobiMundi: Exploring the Impact of Current and Emerging Mobile Technologies and Services on Society Workshop in conjunction with Ninth Int. Conf. on Human Computer Interaction with Mobile Devices and Services: MobileHCI'07, National University of Singapore, Singapore, Sep. 11th– 14th 2007.
15. *Publicity Chair*: Ninth Int. Conf. on Human Computer Interaction with Mobile Devices and Services: MobileHCI'07, National University of Singapore, Singapore, Sep. 11th– 14th 2007.
16. *Coordinator*: Spatial Media Group Public Lecture, University of Aizu, Aizu-Wakamatsu, Japan, Feb. 18th 2006.
17. *Demonstration Chair*: Sixth Int. Wkshp. on Spatial Media: IWSM'05-'06, University of Aizu, Aizu-Wakamatsu, Japan, Feb. 1st– 3rd 2006.
18. *Demonstration Chair*: Fifth Int. Wkshp. on Spatial Media: IWSM'04-'05, University of Aizu, Aizu-Wakamatsu, Japan, November 2005.
19. *Demonstration Chair*: Lab demonstrations for local high school students, University of Aizu, Aizu-Wakamatsu, Japan, 2004 – 2005.

As a Reviewer

1. SIGCHI: Augmented Human Conference
2. Entertainment Computing (Elsevier)
3. ACM Transactions on Multimedia Computing, Communications and Applications
4. CiE: ACM Computers in Entertainment
5. AHCI: Advances in Human-Computer Interaction
6. Springer ICEC: International Conference on Entertainment Computing
7. ACM ACE: International conference on Advances in Entertainment Computing
8. IEEE VR: Virtual Reality
9. International Conference on Human-Computer Interaction with Mobile Devices and Services
10. SIGCHI: ACM CHI Conference on Human Factors in Computing Systems
11. Augmented Human International Conference

Public Exhibits

1. Final year project, "Prof. Who" (www.prof-who.com) was used to facilitate more information about SCSE Projects and SCSE Professors during the Open House in 2017 (March 04, 2017).
2. Final year project, "Twittener" (www.twittener.io) was exhibited for the public during the Open House in 2017 (March 04, 2017).
3. Final year project, "Natural feature tracking solution for outdoor Augmented Reality" was exhibited for the public during the Open House in 2017 (March 04, 2017).

4. Final year project, "Web- and Mobile-based solutions for GPS Trail Visualizer" was exhibited during the Open House in 2017 (March 04, 2017).
5. Social Media and Assistive technologies for underserved communities, Media Exploit, Singapore (October 1st, 2013).
6. Social Media and Assistive technologies for underserved communities, Tech Innovation, Singapore (September 24th, 2013).
7. Poetry Mix-up was shown at the Art Center Nabi, Korea (July 1st to July 31, 2011).
8. "Petimo: children's companion for safe social networking," SIGGRAPH ASIA '09: ACM SIGGRAPH ASIA 2009 Art Gallery & Emerging Technologies: Adaptation, Yokohama, Japan, December 16-19, 2009.
9. "AmbiKraf: An embedded non-emissive and fast changing wearable display," In Digital Content Expo Exhibition, Tokyo, Japan, October 20-25, 2009.
10. "Babbage Cabbage: Biological Empathetic Media," Laval Virtual ReVolution 2009, Laval, France, April 22-26, 2009.
11. BlogWall was shown at X-periment exhibition, Marina Square Singapore (August 2008).
12. "Metazoa Ludens," Wired NextFest 2007, LA, USA, September 13-16, 2007.
13. "Hitch-Haiku," SIGGRAPH 2007 Art Gallery: Global Eyes, San Diego, California, USA, August 5-9, 2007.
14. BlogWall selected as a permanent display at the Singapore Science Center (April 2007).
15. BlogWall was shown at the University Cultural Center Exhibition, March 2007.
16. BlogWall was shown at the 9 Billion Mouths to Feed Exhibition in Singapore Science Center (April to July 2007).

PRESS, MEDIA, AND MAGAZINE ARTICLES

1. Dengue Free Child app (2018): Dengue Free Child app for the school children was featured on several TV channels, Radio and Newspapers in Sri Lanka (<https://www.youtube.com/watch?v=F4WPWRuAnP8>).
2. Mo-Buzz (2015): Mo-Buzz Dengue for the general public was featured on several TV channels, Radio and Newspapers in Sri Lanka (<http://www.mo-buzz.org/srilanka/>).
3. Mo-Buzz (2013): Socially Mediated System for Dengue Public Health Surveillance, Communication and Engagement system was featured in several TV channels (Sri Lanka: SLRC, ITN, and Derana), Radio (Sri Lanka: SLBC, TNL Radio, Sooriyan FM) and Newspapers (Sri Lanka: Daily FT, Daily Ceylon Today, Sunday Island, Sunday Virakesari, Daily Island, Daily News, and Daily Rivira)
4. Mo-Buzz: Socially Mediated System for Dengue Public Health Surveillance, Communication and Engagement, Article in newspaper, Straits Times on June 11, 2013
5. Set poetry in motion, just send a text message (Poetry Mixup): Article in newspaper Straits Times on September 17, 2011
6. Mixed Reality Lab on Discovery Science Channel "Future of Communication," 2009.
7. Social Networking Robot for Children: Article in newspaper Lianhe Zaobao, May 31, 2009.
8. Social Networking Robot for Children: Article in newspaper Straits Times on June 16, 2009
9. Social Networking Robot for Children: appeared in NUS' News Portal http://newshub.nus.edu.sg/headlines/0609/keio_03Jun09.php/
10. Babbage Cabbage: Empathetic Living Media appeared in NUS' Research Gallery <http://www.nus.edu.sg/research/rg158.php/>
11. Article about Metazoa Ludens in Axis Design Magazine, December 2007