Chek Tien Tan

InfoComm Technology Cluster
Singapore Institute of Technology
10 Dover Drive
Singapore 138683

Phone: +65 65921415
Email: chektien.tan@singaporetech.edu.sg
Homepage: https://ch3k.com

Employment

Associate Professor and Centre Director, InfoComm Technology Cluster, Singapore Institute of Technology, 2019–current.

> *Key appointments:* **Director, Centre for Immersification**.

> *Research projects:* Immersification Tools, Social Immersification, VR/AI for Commuter Experiences, VR for Learning Design, VR for Biopharmaceutical Engineering, Gamification of Student Surveys.

> *Teaching subjects:* Software Engineering, Mobile Applications Development, Data Structures, Software Management, Machine Learning.

Assistant Professor and Deputy Programme Director, InfoComm Technology Cluster, Singapore Institute of Technology, 2017–2019.

> *Key appointments:* **Deputy Programme Director, DigiPen Programmes**

> *Research projects:* VR for Biopharmaceutical Engineering, Underwater VR, Real-world AR for Cycling, Mixed Modality AR for Jogging, Speech-aware Serious Games, Gamification of Student Surveys.

> *Teaching subjects:* Software Engineering, Mobile Applications Development, Data Structures, Performance Testing and Optimization, Software Management.

Senior Lecturer, School of Software, Faculty of Engineering and Information Technology, University of Technology, Sydney, 2014–2016.

> *Key appointments:* **Co-director, Games Studio Lab, Acting Deputy Head of School, Course Coordinator for B.Sc. Games Development**.

> *Research projects:* Research through Game Design, Speech-aware Serious Games, Games for Emotional Development, Multimodal Tools for Player Experience Evaluation, Gamification of Flipped Learning, Gamification of Healthy Eating, Terrain Analysis for RTS Game AI.

> *Teaching subjects:* Game Design, Game Programming, Digital Experience Design, Computer Graphics Project.

Visiting Assistant Professor, Singapore University of Technology and Design, Singapore, 2014.

> *Research projects:* Multimodal Interfaces for Speech Therapy, Augmenting Jogging with Technology.

Visiting Research Fellow, Exertion Games Lab, Royal Melbourne Institute of Technology, Melbourne, 2014.

> *Research projects:* Augmenting Jogging with Technology.

Lecturer, School of Software, Faculty of Engineering and Information Technology, University of Technology, Sydney, 2011–2014.

> *Key appointments:* **Co-director, Games Studio Lab**, Subject Assessment Committee.

> *Teaching subjects:* Game Design, Game Programming, Computer Graphics Project.

> *Research projects:* Personalized Games, Player Experience Evaluation Using Facial Expressions, Speech-aware Serious Games, Games for Emotional Development, Multimodal Tools for Player Experience Evaluation, Games for Handwriting Development, Racing Game AI.

Assistant Professor, Department of Computer Science, DigiPen Institute of Technology, 2009–2010.
Research projects: Partially Observable Markov Decision Processes in Games, Augmented Reality Games.

Industrial project: Employee training program for Ubisoft.

Teaching subjects: Artificial Intelligence for Games, Algorithms Analysis, Advanced C/C++, Data Structures, Introduction to Computer Technology and Programming.

Teaching Assistant, Department of Computer Science, National University of Singapore, 2003–2009.
Research projects: Concurrently pursuing Ph.D. research in Adaptive Agent Architectures in Modern Virtual Games.

Teaching subjects: Enterprise Systems Development, Human-Computer Interaction (HCI), Introduction to Computing, Problem Solving in Computing, Programming for Business, Computer Graphics.

Research Assistant, Department of Computer Science, National University of Singapore, 2004, 2009.
Research projects: 3D Face Correspondence for 3D Reconstruction, Partially Observable Markov Decision Processes in Games.

Information Technology Analyst, Singhealth Private Limited, 2004.
Industrial project: Time-critical datawarehousing software development for medical records analysis.

Education

Ph.D. in Computer Science, National University of Singapore, 2010.
Dissertation: Adaptive Agent Architectures in Modern Virtual Games.

Bachelor of Computing in Computer Engineering (Hons), National University of Singapore, 2003.

Competitive Grants

Centre Director and Principal Investigator, SIT **Innovation Capability Grant** for the "Centre for Immersification", 2021 (603,000 SGD).

Principal Investigator, WSG **SGUnited Traineeships** for "Virtual lab-based evaluation of mobility environment to improve first/last mile connections", 2020 (48,000 SGD).

Co-Investigator, **Majurity Trust Award** on "Virtual Reality for Dementia Education and Training", 2020 (99,200 SGD).

Principal Investigator, **LTA Sustainable Singapore Blueprint Grant** on "Virtual lab-based evaluation of mobility environment to improve first/last mile connections", 2019 (2,283,789 SGD).

Co-Investigator, **MOE Tertiary Education Research Fund (TRF)** on "Exploring Virtual Reality to Improve Chemical Engineering Learning Outcomes", 2019 (240,661 SGD).

Co-Investigator, **MOE Tertiary Education Research Fund (TRF)** on "Gamified Micro-learning Platform: an Early Intervention for at-risk Freshmen", 2019 (211,125 SGD).

Collaborator, SIT **Ignition Grant** on "Project Kampong Lorong Buangkok: Preserving Singapore mainland's last kampong", 2018 (150,000 SGD).

Principal Investigator, SIT **Seed Grant** on "VRSafe: A Virtual Reality Safety Training Platform for Cyclists and PMD Users in Singapore", 2018 (9,898 SGD).

Co-Investigator, SIT **Ignition Grant** on "Virtual Reality Mobility Training (VRMT) for Physiotherapy", 2018 (100,000 SGD).

Co-Investigator, SIT **Ignition Grant** on "How computer gaming affects the brain health of post-stroke patients?", 2018 (60,080SGD).

Co-Investigator, SIT **Advancement of Learning and Teaching (SALT) Grant** for Immersive Training for Bioreactor Operations, 2017 (10,000 SGD).

Co-Investigator, UTS **Teaching & Learning Grant** for An End-of-Year Exhibition of Undergraduate Student Project Work within Interaction Design, Digital Design and Software Development, 2016 (5,000 AUD).

Co-Investigator, UTS **ARC Linkage Seed Grant** for Adaptable Game Mechanics Project, 2016 (3,000 AUD).

Publications

Peer-reviewed Conference Papers

[1] Qinyue Chen, Sheue-Er Low, Jeremiah W.E. Yap, Adjovi K.X. Sim, Yu-Yang Tan, Benjamin W.J. Kwok, Jeannie S.A. Lee, Chek-Tien Tan, Wan-Ping Loh, Bernard L.W. Loo, and Adison C.K. Wong. "Immersive Virtual Reality Training of Bioreactor Operations". In: *2020 IEEE International Conference on Teaching, Assessment, and Learning for Engineering (TALE)*. 2020, pp. 873–878.

[2] Desheng Zhao, Jeannie Su Ann Lee, Chek Tien Tan, Alexandru Dancu, Simon Lui, Songjia Shen, and Florian 'Floyd' Mueller. "GameLight - Gamification of the Outdoor Cycling Experience". In: *Companion Publication of the 2019 on Designing Interactive Systems Conference 2019 Companion*. DIS '19 Companion. San Diego, CA, USA: ACM, 2019, pp. 73–76.

[3] Chek Tien Tan, Jeannie Lee, Bernard Loo, Songjia Shen, and Simon Lui. "Exploring Gamification and VR to Improve Chemical Engineering Learning Outcomes." In: *Proceedings of Clute International Conference in Technology in Education (ICTE)*. ACM Press, 2018, pp. 369–1.

[4] Florian Mueller, Chek Tien Tan, Richard Byrne, and Matt Jones. "13 Game Lenses for Designing Diverse Interactive Jogging Systems". In: *Proceedings of CHI PLAY 2017*. ACM Press, 2017, pp. 43–56.

[5] Wenlong Zhang, Chek Tien Tan, and Tim Chen. "A Safe Low-cost HMD for Underwater VR Experiences". In: *Proceedings of SIGGRAPH Asia 2016 MGIA*. Macau: ACM Press, 2016, 12:1–12:2.

[6] Chek Tien Tan, Richard Byrne, Simon Lui, Weilong Liu, and Florian Mueller. "JoggAR: a mixed-modality AR approach for technology-augmented jogging". In: *Proceedings of SIGGRAPH Asia 2015 MGIA*. ACM Press, 2015.

[7] Chek Tien Tan, Tuck Wah Leong, Songjia Shen, Christopher Dubravs, and Chen Si. "Exploring Gameplay Experiences on the Oculus Rift". In: *Proceedings of CHI PLAY 2015 **BEST PAPER HONORABLE MENTION***. ACM Press, 2015.

[8] Chek Tien Tan, Pejman Mirza-babaei, Veronica Zammitto, Alessandro Canossa, Genevieve Conley, and Günter Wallner. "Tool Design Jam : Designing Tools for Games User Research". In: *Proceedings of CHI PLAY 2015*. ACM Press, 2015.

[9] Jaime Garcia, Yusuf Pisan, Chek Tien Tan, and Karla Felix Navarro. "Step Kinnection: A Hybrid Clinical Test for Fall Risk Assessment in Older Adults". In: *Proceedings of CHI'14 Ext. Abstracts*. ACM Press, 2014, pp. 471–474.

[10] Natalie Harrold, Chek Tien Tan, Daniel Rosser, and Tuck Wah Leong. "CopyMe : A Portable Real-Time Feedback Expression Recognition Game for Children". In: *Proceedings of CHI'14 Ext. Abstracts*. ACM Press, 2014, pp. 1195–1200.

[11] Natalie Harrold, Chek Tien Tan, Daniel Rosser, and Tuck Wah Leong. "CopyMe: an Emotional Development Game for Children". In: *Proceedings of CHI'14 Ext. Abstracts*. ACM Press, 2014, pp. 503–506.

[12] Paris Mavromoustakos Blom, Sander Bakkes, Chek Tien Tan, Shimon Whiteson, Diederik Roijers, Roberto Valenti, and Theo Gevers. "Towards Personalised Gaming via Facial Expression Recognition". In: *Pro-

ceedings of Tenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment. Palo: AAAI Press, 2014.

[13] Songjia Shen, Chek Tien Tan, and Tuck Wah Leong. "Towards Better Tools to Support Mixed Methods in Game User Research". In: *Proceedings of CHI 2014 Workshop on Game User Experience*. 2014.

[14] Chen Si, Yusuf Pisan, and Chek Tien Tan. "Automated Terrain Analysis in Real-Time Strategy Games". In: *Proceedings of Foundations of Digital Games 2014 Doctoral Consortium*. Society for the Advancement of the Science of Digital Games, 2014, p. 4.

[15] Chek Tien Tan, Sander Bakkes, and Yusuf Pisan. "Correlation between Facial Expressions and the Game Experience Questionnaire". In: *Entertainment Computing ICEC 2014*. 1. Springer Berlin Heidelberg, 2014, pp. 2–4.

[16] Chek Tien Tan, Sander Bakkes, and Yusuf Pisan. "Inferring Player Experiences Using Facial Expressions Analysis". In: *Proceedings of the 10th Australasian Conference on Interactive Entertainment*. ACM Press, 2014.

[17] Chek Tien Tan, Andrew Johnston, Andrew Bluff, Sam Ferguson, and Kirrie J. Ballard. "Speech Invaders & Yak-man : Retrogames for Speech Therapy". In: *Proceedings of SIGGRAPH Asia 2014 MGIA*. ACM Press, 2014.

[18] Chek Tien Tan, Andrew Johnston, Andrew Bluff, Samuel Ferguson, and Kirrie J. Ballard. "Retrogaming as Visual Feedback for Speech Therapy". In: *Proceedings of SIGGRAPH Asia 2014 MGIA*. ACM Press, 2014.

[19] Chek Tien Tan, Tuck Wah Leong, and Songjia Shen. "Combining Think-aloud and Physiological Data to Understand Video Game Experiences". In: *Proceedings of CHI'14*. ACM Press, 2014, pp. 381–390.

[20] Chek Tien Tan, Hemanta Sapkota, and Daniel Rosser. "BeFaced: a Casual Game to Crowdsource Facial Expressions in the Wild". In: *Proceedings of CHI'14 Ext. Abstracts*. ACM Press, 2014, pp. 491–494.

[21] Chek Tien Tan, Hemanta Sapkota, Daniel Rosser, and Yusuf Pisan. "A Game to Crowdsource Data for Affective Computing". In: *Proceedings of Foundations of Digital Games 2014 Games*. Society for the Advancement of the Science of Digital Games, 2014, p. 11.

[22] Chek Tien Tan, Hemanta Sapkota, Daniel Rosser, and Yusuf Pisan. "Initial Perceptions of a Casual Game to Crowdsource Facial Expressions in the Wild". In: *Proceedings of Foundations of Digital Games 2014 WIP*. Society for the Advancement of the Science of Digital Games, 2014, p. 11.

[23] Chek Tien Tan. "MOOCs vs MMOGs". In: *Proceedings of the International Conference on Managing the Asian Century*. Singapore, Singapore: Springer Singapore, 2013, pp. 89–99.

[24] Chek Tien Tan. "Towards a MOOC Game". In: *Proceedings of the 9th Australasian Conference on Interactive Entertainment*. ACM, 2013, p. 30.

[25] Chek Tien Tan, Natalie Harrold, and Daniel Rosser. "Can you CopyMe?: an expression mimicking serious game". In: *Proceedings of SIGGRAPH Asia 2013 MGIA*. New York, NY, USA: ACM Press, 2013, p. 73.

[26] Chek Tien Tan, Natalie Harrold, and Daniel Rosser. "Designing CopyMe : an expression mimicking serious game". In: *Proceedings of SIGGRAPH Asia 2013 MGIA*. New York, NY, USA: ACM Press, 2013, p. 73.

[27] Chek Tien Tan, Andrew Johnston, Kirrie Ballard, Samuel Ferguson, and Dharani Perera-Schulz. "sPeAK-MAN: towards popular gameplay for speech therapy". In: *Proceedings of the 9th Australasian Conference on Interactive Entertainment*. New York, NY, USA: ACM Press, Sept. 2013, p. 28.

[28] Chek Tien Tan, Daniel Rosser, and Natalie Harrold. "BeFaced : a game for crowdsourcing facial expressions". In: *Proceedings of SIGGRAPH Asia 2013 MGIA*. New York, NY, USA: ACM Press, 2013, p. 97.

[29] Chek Tien Tan, Daniel Rosser, and Natalie Harrold. "Crowdsourcing facial expressions using popular gameplay". In: *Proceedings of SIGGRAPH Asia 2013 Technical Briefs*. New York, NY, USA: ACM Press, 2013, p. 26.

[30] Sander Bakkes, Chek Tien Tan, and Yusuf Pisan. "Personalised gaming". In: *Proceedings of The 8th Australasian Conference on Interactive Entertainment*. ACM Press, 2012, p. 4.

[31] Sam Ferguson, Andrew Johnston, Kirrie Ballard, Chek Tien Tan, and Dharani Perera-Schulz. "Visual Feedback of Acoustic Data for Speech Therapy : Model and Design Parameters". In: *Proceedings of the 7th Audio Mostly Conference on Interaction with Sound*. ACM Press, 2012, pp. 135–140.

[32] Natalie Harrold, Chek Tien Tan, and Daniel Rosser. "Towards an expression recognition game to assist the emotional development of children with autism spectrum disorders". In: *Proceedings of the Workshop at SIGGRAPH Asia on - WASA '12*. New York, New York, USA: ACM Press, 2012, pp. 33–37.

[33] Yusuf Pisan and Chek Tien Tan. "Persuasive Environments : Argumentation Models in Serious Games". In: *Proceedings of the International Conference on Computer Science & Education*. Melbourne, Australia: IEEE Comput. Soc. Press, 2012, pp. 1319–1322.

[34] Yusuf Pisan and Chek Tien Tan. "SimEnv : Understanding and Supporting the Creation of Outcome-driven Simulations". In: *Proceedings of the International Conference on Computer Science & Education*. Melbourne, Australia: IEEE Comput. Soc. Press, 2012, pp. 1315–1318.

[35] Yusuf Pisan and Chek Tien Tan. "Use of Student-designed Authorware for E-mediated Science and Technology Learning". In: *Proceedings of the 7th International Conference on Computer Science & Education*. Melbourne, Australia: IEEE Comput. Soc. Press, 2012, pp. 1633–1637.

[36] Chek Tien Tan and Yusuf Pisan. "Towards Automated Player Experience Detection With Computer Vision Techniques". In: *Proceedings of CHI 2012 Workshop on Game User Research*. 2012.

[37] Chek Tien Tan, Daniel Rosser, Sander Bakkes, and Yusuf Pisan. "A feasibility study in using facial expressions analysis to evaluate player experiences". In: *Proceedings of The 8th Australasian Conference on Interactive Entertainment*. ACM Press, 2012, p. 5.

[38] Chek Tien Tan and Andrew Johnston. "Towards a Non-disruptive , Practical and Objective Automated Playtesting Process". In: *Proceedings of Workshops at The Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*. AAAI Press, 2011, p. 5.

[39] Chek Tien Tan and Donny Soh. "Augmented Reality Games: A Review". In: *Proceedings of The Asian Simulation and AI in Games Conference, GAMEON-ASIA, EUROSIS*. Vol. 31. 2. Apr. 2011, pp. 17–24.

[40] Chek Tien Tan and Ho-lun Cheng. "An Automated Model-Based Adaptive Architecture in Modern Games ". In: *Proceedings of The Sixth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*. AAAI Press, 2010, p. 13.

[41] Chek Tien Tan and Ho-lun Cheng. "IMPLANT : An Integrated MDP and POMDP Learning AgeNT for Adaptive Games". In: *Proceedings of The Fifth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*. AAAI Press, 2009, p. 16.

[42] Chek Tien Tan and Ho-lun Cheng. "A combined tactical and strategic hierarchical learning framework in multi-agent games". In: *Proceedings of the 2008 ACM SIGGRAPH symposium on Video games - Sandbox '08*. New York, New York, USA: ACM Press, 2008, pp. 115–122.

[43] Chek Tien Tan and Ho-lun Cheng. "TAP : An Effective Personality Representation for Inter-Agent Adaptation in Games". In: *Proceedings of The Fourth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*. AAAI Press, 2008, p. 20.

[44] Chek Tien Tan and Ho-lun Cheng. "TAPIR: TAPS with Input Reduction for Inter-Agent Adaptation in Modern Games". In: *Proceedings of The International Conference on Computer Games: AI, Animation, Mobile, Interactive Multimedia, Educational & Serious Games (CGames)*. 2008.

[45] Chek Tien Tan and Ho-lun Cheng. "Personality-based Adaptation for Teamwork in Game Agents". In: *Proceedings of The Third AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*. AAAI Press, 2007, p. 7.

Peer-reviewed Journal Articles

[46] Beena Ahmed, Penelope Monroe, Adam Hair, Chek Tien Tan, Ricardo Gutierrez-Osuna, and Kirrie J. Ballard. "Speech-driven mobile games for speech therapy: User experiences and feasibility". In: *International Journal of Speech-Language Pathology* 0.0 (2018). PMID: 30301384, pp. 1–15.

[47] Kirrie Ballard, Nicole M Etter, Songjia Shen, Penelope Monroe, and Chek Tien Tan. "Use of Automatic Speech Recognition (ASR) Software in App-Based Treatment in Apraxia of Speech and Aphasia". In: *American Journal of Speech-Language Pathology* (2018).

[48] Chen Si, Yusuf Pisan, Chek Tien Tan, and Songjia Shen. "An initial Understanding of How Game Users Explore Virtual Environments". In: *Entertainment Computing* 19 (2016), pp. 13–24.

[49] Jaime Garcia, Yusuf Pisan, Chek Tien Tan, and K. F. Navarro. "Assessing the Kinect's Capabilities to Perform a Time-based Clinical Test for Fall Risk Assessment in Older People". In: *Entertainment Computing ICEC 2014* (2014).

[50] Sander Bakkes, Chek Tien Tan, and Yusuf Pisan. "Personalised Gaming". In: *Journal. Creative Technologies* 3 (2013), p. 5.

[51] Chek Tien Tan, Junbin Huang, and Yusuf Pisan. "Initial Perceptions of a Touch-based Tablet Handwriting Serious Game from a Player's Perspective". In: *Entertainment Computing ICEC 2013*. Lecture Notes in Computer Science 8215 (2013), pp. 172–175.

[52] Chek Tien Tan and Ho-lun Cheng. "Tactical Agent Personality". In: *International Journal of Computer Games Technology* 2011 (Jan. 2011), pp. 1–16.

Book Chapters

[53] Chek Tien Tan. "Using Biofeedback to Understand Player Experiences". In: *Encyclopedia of Computer Graphics and Games* (*to appear*). Ed. by Ruck Thawonmas. Springer, 2015.

[54] Chek Tien Tan and Sam Ferguson. "The Role of Emotions in Art Evaluation". In: *Interactive Experience in the Digital Age - Evaluating New Art Practice*. Ed. by Linda Candy and Ernest Edmonds. 1st ed. Sydney, Australia: Springer, 2014. Chap. 10, pp. 139–152.

Edited Proceedings

[55] Yukari Nagai, Sam Ferguson, Tom Hewett, Ellen Yi-Luen Do, Steven Dow, Jack Ox, Steve Smith, Kazushi Nishimoto, and Chek Tien Tan. *Proceedings of the 9th ACM Conference on Creativity & Cognition*. Ed. by Yukari Nagai, Sam Ferguson, Tom Hewett, Ellen Yi-Luen Do, Steven Dow, Jack Ox, Steve Smith, Kazushi Nishimoto, and Chek Tien Tan. Sydney, Australia, 2013.

[56] Daniel Cermak-Sassenrath, Charles Walker, and Chek Tien Tan. *Proceedings of The 8th Australasian Conference on Interactive Entertainment (IE2012)*. Ed. by Daniel Cermak-Sassenrath, Charles Walker, and Chek Tien Tan. 2012.

[57] Chek Tien Tan. *Proceedings of the 3rd Asian Conference on Intelligent Games and Simulation (GAMEON-ASIA 2011)*. Ed. by Chek Tien Tan. 2011.

Invited Talks

Trends and Grand Challenges for CHI Play. *CHI Play 2020*, Ottawa, Canada. 2020.

VR for Evaluating User Experiences. *Tech for Good Series*, University of Washington, Bothel.

A Whole New Ball Game. *Games and Public Libraries Seminar*, State Library of New South Wales, Australia. 2011.

Playful Research at the UTS Games Studio. *The Higher Degree Research Consortium*, Queensland University of Technology, Australia. 2011.

Computing is Fun? Creating Your First Game. *Science Focus 2008*, School of Computing, National University of Singapore, 2008.

Public & Professional Service

Conference Chairing

Workshops Co-chair, OzCHI, 2016.

Panel Chair for Indie Game: An Australian Perspective, Sydney International Animation Festival (SIAF), 2013.

Posters & Demos Chair, ACM Creativity & Cognition (C&C), 2013.

Track Chair, Business and Revenue Models in Gaming Industry, International Conference on Managing the Asian Century (ICMAC), 2013.

Program Chair, Australasian Conference on Interactive Entertainment (IE), 2012.

Panel Chair for Code Warriors, Sydney International Animation Festival (SIAF) 2011.

General Conference Chair, The Simulation and AI in Games Conference, GAMEON-ASIA, EUROSIS, 2011.

Conference Program Committees
Joint Digital Games Research Association and Foundations of Digital Games (DIGRA/FDG) Program Committee, 2016.

Foundations of Digital Games (FDG) Program Committee, 2015–present.

Chinese CHI, 2015–present.

OzCHI, 2014–present.

International Conference on Entertainment Computing (ICEC), 2013–present.

Australasian Conference on Interactive Entertainment (IE), 2013–Present.

Symposium on GPU Computing & Applications, 2013.

External Examiner
Ph.D. Thesis, Queensland University of Technology (QUT), 2016.

Ph.D. Thesis, Royal Melbourne Institute of Technology (RMIT), 2014.

External Expert for the Higher Degree Research Consortium, QUT, QLD, Australia, 2011.

Academic Advisory Board, Sydney International Animation Festival (SIAF) 2011–2015.

Professional Associations

Member Adult Education Professional, Institute for Adult Learning Singapore (IAL)

Member, ACM Special Interest Group for Computer-Human Interaction (SIGCHI)

Member, ACM Special Interest Group for Computer Graphics (SIGGRAPH)

Member, Association for the Advancement of Artificial Intelligence (AAAI)

In the Media

Exclusive Interview, Meet the Professors: If I want to be a Computer Scientist. `https://yahoosg-workre adygraduates.tumblr.com/post/187747047753/video-playlist-example`

News Segment, You can play 'games' while recycling garbage. Here's how ... `https://berita.mediacorp .sg/mobilem/suarakampus/anda-boleh-main-game-sambil-kitar-semula-sampah-sarap-ini/429340 8.html`

Exclusive Interview, Right on cue: app helps with autism, The Sydney Morning Herald, May 2014. `http: //www.smh.com.au/national/right-on-cue-app-helps-with-autism-20140514-389xv.html`

Exclusive Interview, Serious Games, U: Magazine, Issue 3, May 2014. `http://newsroom.uts.edu.au/ne ws/2014/05/serious-games`

Invited Article, Flappy Bird and the eight secrets to optimal gameplay, The Conversation, 2014. `https: //theconversation.com/flappy-bird-and-the-eight-secrets-to-optimal-gameplay-25603`

Expert Opinion, Computers are getting creative, The Sydney Morning Herald Digital Life, 2014. `http: //www.smh.com.au/digital-life/digital-life-news/computers-are-getting-creative-20140220- 331n0.html`

TV Guest Expert, Enquiring Minds Television Show, Television Sydney, 2013.

TV Guest Expert, The Good Game Television Show, Australian Broadcasting Corporation, 2011.

Expert Opinion, Sony restores network; struggles to restore trust, MacWorld Online Magazine, 2011. `http: //www.macworld.com.au/news/sony-restores-network-struggles-to-restore-trust-29928/`

Published Research Applications

SpeechWorm, iPad/iPhone App for speech therapy.
URL: https://itunes.com/apps/speechworm

SpeechWordPop, iPad/iPhone App for speech therapy.
URL: https://itunes.com/apps/speechwordpop

CopyMe, iPad App for children to learn emotions. First iOS app with robust facial expression recognition.
URL: https://itunes.com/apps/copyme

Speech Invaders, iPad/iPhone App for speech therapy.
URL: https://itunes.com/apps/speechinvaders

Yak-man, iPad/iPhone App for speech therapy.
URL: https://itunes.com/apps/yakman

Subjects Taught

Introduction to Machine Learning I & II Associate Professor, Singapore Institute of Technology,
2018-present.

Introduction to Software Engineering, Associate Professor, Singapore Institute of Technology,
2018-present.

Software Management , Associate Professor, Singapore Institute of Technology,
2018-present.

Introduction to Mobile App Development, Associate Professor, Singapore Institute of Technology,
2017-present.

Data Structures, Associate Professor, Singapore Institute of Technology,
2017-present.

Computer Game Programming, Senior Lecturer, University of Technology, Sydney, 2011.

Computer Game Design, Senior Lecturer, University of Technology, Sydney, 2011-2016.

Digital Experience Design, Senior Lecturer, University of Technology, Sydney, 2011-2016.

Computer Graphics Project, Senior Lecturer, University of Technology, Sydney, 2011-2016.

Artificial Intelligence for Games, Assistant Professor, DigiPen Institute of Technology, 2010.

Algorithms Analysis, Assistant Professor, DigiPen Institute of Technology, 2010.

Advanced C/C++, Assistant Professor, DigiPen Institute of Technology, 2010.

Data Structures, Assistant Professor, DigiPen Institute of Technology, 2010.

Introduction to Computer Technology and Programming, Assistant Professor,
DigiPen Institute of Technology, 2010.

Enterprise Systems Development, Teaching Assistant, National University of Singapore, 2009.

Human-Computer Interaction (HCI), Teaching Assistant, National University of Singapore, 2008.

Introduction to Computing, Teaching Assistant, National University of Singapore, 2007.

Problem Solving in Computing, Teaching Assistant, National University of Singapore, 2007.

Programming for Business, Teaching Assistant, National University of Singapore, 2006.

Computer Graphics, Teaching Assistant, National University of Singapore, 2003.

Competitive Awards, Honors

SIGCHI **Best Paper Honorable Mention** for CHI Play 2015 paper on Exploring Gameplay Experiences on
the Oculus Rift, 2014.

Nominated for UTS **Medal for Excellence in Teaching and Research Integration**, 2014.

Selected **Best Paper for Republication** at Australian Computer Science Week: Inferring Player Experiences Using Facial Expressions Analysis, In: Proceedings of the 10th Australasian Conference on Interactive Entertainment. ACM Press, 2014.

Recipient, NUS **Graduate Scholarship** for Ph.D. Studies, 2004-2008 (120,000 SGD stipend over four years).

Co-director, NUS Venture Support (NVS) **Seed Funding** for Technological Startup, 2005 (40,000 SGD).

Other Notable Activities

Adult Education Professional, 2017–current
Certified educator for adult learners in Singapore.

Graduate Certificate in Higher Education Teaching & Learning (UTS), 2011-2012
Attended foundational modules including student learning and teaching approaches, as well as course design and assessment.

Used knowledge to improve subject designs at UTS.

Signal Officer (part-time), Singapore Armed Forces, 2000–current.
Conducted lectures on signal equipment usage and deployment.

Led teams of sergeants and soldiers in various administrative and field duties.

Director for Technology, Frensville Pte. Ltd.,
Developed the business plan from scratch and successfully secured 40,000 SGD worth of seed funding.

Freelance Web Development Consultation, 2004-2010.
Designed and developed a Rich Internet Application (RIA) using Adobe Flex, Actionscript, PHP and MySQL for an interactive real-time online booking system. The application was deployed successfully for Hygeia Pte. Ltd., a healthcare therapeutic solutions company.

Designed and developed several web Content Management Systems based on the Drupal open-source platform. Programming was mainly done in PHP whilst database in MySQL. The companies involved include a popular hardware review site (Hardwarezone Pte. Ltd.) as well as a financial portal (Qotion.com Pte. Ltd.).

Last updated: March 13, 2021