

Emma Yann Zhang

Phone: +86 18718019231
Email: emmayannzhang@gmail.com
Website: www.emmayannzhang.com

Short Biography

Emma Yann Zhang is a researcher in the field of Human-Robot Interaction. Her research interests are haptic technologies, multisensory communication, robotics, pervasive and wearable computing. Her latest work, a mobile device for transmitting kissing sensations over the Internet, has received worldwide media attention and has been featured in numerous TV programmes and news articles including BBC, Discovery Channel, The Times, etc. Her work has been invited to display in public exhibitions and museums such as the Ars Electronica Festival, VivaTech, and Deutsches Technikmuseum Berlin. She is co-author of the book Human-Robot Intimate Relationships published by Springer.

Education

2014 - 2016 **MPhil/PhD in Computer Science, City, University of London** (Currently on hold due to research work at Imagineering Institute)

2012 - 2013 **B.Eng (Honors) Electronic Engineering, Hong Kong University of Science and Technology**
First Class Honors; GPA 3.83; Awarded Dean's List for two consecutive semesters

2010 - 2012 **B.Eng. (Honors) Electrical Engineering, National University of Singapore** (Transferred)

Employment and Research

2016 - 2018 **Research Engineer, Imagineering Institute, Malaysia**

- Developed a robotic system for transmitting kiss sensations over the Internet
- Developed and implemented a Wordpress-based web application for staff daily work report
- Represented lab in numerous international conferences and exhibitions
- Managed and updated lab official websites
- Organised two international academic conferences
- Skills utilised: Human-Robot Interaction, iOS development, Wordpress, Objective-C, PHP, Arduino, Embedded programming, PCB design and printing, 3D design and printing, User studies, Academic writing

2014 **Front-End Developer, UK Trade and Investment Sirius Program for International Entrepreneurs**

- Created a web application for an online peer to peer rental platform
- Skills utilised: HTML/CSS/Sass, Javascript, Bootstrap, Python, Django, Git, Photoshop

2013 **Research Assistant, HKUST-NIE Social Media Lab**

- Initiated and developed a gesture-controlled wearable device
- Developed iOS and Mac applications, including user interface and visual effects
- Implemented and developed firmware on Bluetooth Low Energy system-on-chip
- Designed PCB circuit for wearable device
- Coached students on Mac application development and programming in Xcode
- Skills utilised: iOS and Mac development, PCB design and printing, Embedded programming, Bluetooth device, Gesture control algorithms

2011 **Student Researcher, Mixed Reality Lab, National University of Singapore**

- Initiated and successfully pitched a service sharing mobile application to venture capitalist
- Designed 3D models for a digital taste research project
- Skills utilised: 3D design and printing, Mobile app prototyping, Wireframing, Photoshop

Other Projects

2012 **Game System**

- Designed a game system using ARM Cortex-3 microcontroller
- Designed and built analogue and digital circuits for speakers, power and circuit protection

2011 **Smart Home Control System**

- Designed a smart home control system with LPC microcontroller interfacing with multiple sensors
- Programmed microcontroller to interface with LCD and other peripherals

2011 **Global Service Jam Competition, Singapore Team**

- Created an iPhone application prototype of a neighbourhood food sharing service in 48 hours
- Managed and promoted project on various social media platforms
- Designed the team logo and received special recommendations from the organizers

Awards and Scholarships

2016 **Winner of Images of Research competition by City, University of London (Kissenger)**

An annual competition and exhibition that showcases the application of some of the world-leading research carried out across the five academic Schools which make up City.

2014 **City, University of London Full Doctoral Studentship**

6 3-year studentships are awarded each year to outstanding applicants, including an annual bursary and full tuition waiver.

2013 Spring & 2012 Fall **Dean's List (School of Engineering, HKUST)**

Awarded to students with outstanding academic achievement with a term grade average of at least 3.7/4.0

2010 **HCI Diploma with Merit**

Awarded in fulfillment of pre-requisites in Scholastic Achievement and Leadership & Services. Recognized for admission by 19 top universities including Harvard and Yale.

2008 **Singapore Ministry of Education Language Elective Scholarship** Awarded to students with linguistic talent and outstanding academic results.

Teaching

Courses Assisted

2015 Mathematics for Computing (Undergraduate)

2016 Software Engineering (Undergraduate)

Conferences

Organising Committee

2017 Organising Chair, Third International Congress on Love and Sex with Robots, London

2017 Organising Chair, ACE (Advances in Computer Entertainment Technology), London

2016 Organising Chair, Second International Congress on Love and Sex with Robots, London

2016 Communication Chair, ACE (Advances in Computer Entertainment Technology), Osaka

2015 Communication Chair, ACE (Advances in Computer Entertainment Technology), Iskandar

Program Committee/Reviewer

- 2017 Program Committee, Third International Congress on Love and Sex with Robots, London
- 2017 Program Committee, ACE (Advances in Computer Entertainment Technology), London
- 2017 Technical Program Committee, Intertain 2017
- 2016 Program Committee, Second International Congress on Love and Sex with Robots, London, 2016
- 2016 Technical Program Committee, ACM MVAR Workshop, Tokyo, 2016
- 2015 Program Committee, ACE (Advances in Computer Entertainment Technology), Madeira, 2014

Publications

h-index: 4

Book and Book Chapters

1. Cheok, A.D., **Zhang, E. Y.** (2019). *Human-Robot Intimate Relationships*. Springer.
2. Cheok, A.D., Karunanayaka, K., **Zhang, E. Y.** (2017). Lovotics: Human-Robot Love and Sex Relationships, in *Robot Ethics 2.0: From Autonomous Cars to Artificial Intelligence*. Oxford University Press (pp. 193).

Journal and Conference Papers

1. Cheok, A. D., **Zhang, E. Y.** (2020). Electrical machine for remote kissing, and engineering measurement of its remote communication effects, including modified Turing test, in *Journal of Future Robot Life, (Preprint)* (pp. 1-24). IOS Press.
2. **Zhang, E. Y.**, Cheok, A.D., Arovski, S., Muniru, I. O. (2017). Exploring the Role of Robotic Kissing "Kissenger" in Digital Communication Through Alan Turing's Imitation Game, in *Industrial Electronics Society, IECON 2017-43rd Annual Conference of the IEEE* (pp. 2870-2875). IEEE.
3. **Zhang, E. Y.**, Nishiguchi, S., Cheok, A. D., Morisawa, Y. (2016). Kissenger - Development of a Real-time Internet Kiss Communication Interface for Mobile Phones, in *International Congress on Love and Sex with Robots* (pp. 115-127). Springer.
4. **Zhang, E. Y.**, Cheok, A. D. (2016). A Networked Device for Reproducing Multisensory Kissing, in *Multimodal Virtual & Augmented Reality, MVAR 2016* (p. 3). ACM.
5. **Zhang, E. Y.**, Cheok, A. D., Nishiguchi, S., Morisawa Y. (2016). Kissenger - Development of a Remote Kissing Device for Affective Communication, in *Proceedings of the 13th International Conference on Advances in Computer Entertainment Technology* (p. 25). ACM.
6. **Zhang, E. Y.**, Cheok, A. D. (2016). Forming Intimate Human-Robot Relationships Through A Kiss Machine, in *Proceedings of the 4th International Conference on Human-Agent Interaction* (pp. 233-234). ACM.
7. **Zhang, E. Y.** (2016). A Multimodal Networked Kissing Machine for Mobile Phones, in *Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct* (pp. 911-913). ACM.
8. Cheok, A. D., Levy, D., Karunanayaka, K., Nishiguchi, S., **Zhang, E. Y.** (2016). Lovotics: Love and Sex with Robots, in *IPSJ Journal, Special Issue: Kawaii, vol. 57, no. 2, pp. 136*
9. **Zhang, E. Y.**, Cheok, A. D., Morisawa, Y. (2016). Designing a Multimodal Haptic Device for Virtual Kissing, in *Next Generation Human-Agent Interaction Workshop*, Singapore.

10. Cheok, A. D., **Zhang, E. Y.** (2016). A Smell Communication Interface for Affective Systems in *eNTERFACE'16 Workshop*, Netherlands.
11. Pradana, G. A., **Zhang, E. Y.**, Cheok, A. D., Morisawa, Y. (2015). Delivering Haptic Sensations in Mobile Marketing, in *Proceedings of the 12th International Conference on Advances in Computer Entertainment Technology* (p. 50). ACM.

Invited Talks, Demonstrations, Exhibitions

1. Invited talk and demonstration, Global Virtual Reality Conference (GVRC), Shanghai, June 2018
2. Invited exhibition of Kissenger at Ars Electronica Festival 2017, a 5-day exhibition and the world's most prestigious event in electronic and media art, Linz, Austria, Sep 2017
3. Invited exhibition of Kissenger at VivaTech 2017, a 3-day exhibition where the most innovative companies and startups came together with global leaders to collaborate. Over 68000 visitors from around the globe attended the exhibition. Paris, June 2017
4. Demonstration at CeBIT Conference 2017, Hannover, Mar 2017
5. Demonstration at EmTech Asia Conference, Singapore, Mar 2017
6. Exhibition at MRS Annual Conference IMPACT 2016, London, Mar 2016
7. Talk and demonstration at Unilever Disruption 2025 Event, London, 29 Feb 2016
8. Panel Speaker on the Huffington Post Live program, Oct 2015
9. Talk and demonstration at Telefonica UK, London, June 2015
10. Public Demonstration at the Hidden Senses exhibition, London Science Museum DANA Center, 21 Nov 2014