

Emma Yann Zhang

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Short Biography

With a degree in Electronic Engineering, Emma Yann Zhang has experience in both hardware and software development. Her research areas include human-robot interaction, haptic technologies, multisensory communication, artificial intelligence, pervasive and wearable computing. She is the developer of the world's first kiss messenger, a mobile device for transmitting kissing sensations over the Internet. Her work has received worldwide media attention and has been featured in numerous TV programmes and news articles including BBC, Discovery Channel, Wired, The Times, Huffington Post, Fuji TV, Canal+, etc. She has been invited to display her work in numerous 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 by Springer.

Education

2014 - 2017 **MPhil/PhD in Computer Science, City, University of London** (Currently on hold due to research work at Imagineering Institute)

- Research topic: A Multimodal Networked Kissing Machine
- Full Doctoral Studentship, 6 awarded to PhD applicants each year
- Courses taught (as Teaching Assistant): Mathematics for Computing; Software Engineering

2012 - 2013 **B.Eng. Electronic Engineering, Hong Kong University of Science and Technology**

- First Class Honors; GPA 3.83; awarded Dean's List for 2 consecutive semesters

Employment and Research

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

- Developed a robotic system for transmitting kiss sensations over the Internet
- Conducted research on multisensory communication systems - digital taste and smell
- 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, Artificial intelligence, iOS development, Wordpress, Objective-C, PHP, Arduino Programming, Embedded programming, PCB design and printing, 3D design and printing, Rapid prototyping, User studies

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 C, Bluetooth device, Gesture control

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 and 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
- Skills utilised: Digital and analogue circuit design, Hardware prototyping, Embedded C

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
- Skills utilised: Circuit design, Hardware prototyping, Embedded C

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
- Skills utilised: 3D design and printing, Mobile app prototyping, Wireframing, Photoshop

Skills

iOS and Mac OS development, Web development, Wordpress, Embedded programming, Robotics, Electronics circuit design, PCB design and prototyping, 3D modelling and printing, Arduino

Programming Languages: Objective-C, Java, C, HTML/CSS, PHP, Python, Javascript, SQL

Additional: Matlab, Photoshop, Illustrator, Latex, Conference organisation

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. Invited 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

Publications

Refer to <http://emmayannzhang.com/publications> for a full list of publications.