Emma Yann Zhang

AI Researcher | Developer

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SUMMARY

AI researcher with expertise in both hardware and software development, specializing in emotional human-AI and human-robot interactions, haptic technologies, and multisensory communication. Developed the world's first "kiss messenger," a mobile device for transmitting kiss sensations over the Internet. Research has received media coverage in international press such as The Guardian, The Times, and Huffington Post, and featured in TV and radio programs including BBC World, Discovery Channel, WTOP, Channel News Asia, etc. Work showcased at top exhibitions and conferences such as the Ars Electronica Festival Germany Museum of Technology, and CeBIT conference. Published numerous peer-reviewed journal and conference papers, and co-authored of the book *Human-Robot Intimate Relationships,* published by Springer. Co-founder of Tamo Robotics. Experienced public speaker with invited talks at international conferences, public and corporate events.

SKILLS

AI/ML: Model training, Fine-tuning, TensorFlow, PyTorch, Scikit-Learn, Large language models, RAG applications, Chatbots, AI agents

Hardware: Embedded systems development, Circuit design, PCB design and prototyping, 3D modeling and printing, Bluetooth BLE, Arduino, Raspberry Pi, Rapid prototyping

Software: Python, Mobile development (iOS, Android), Web development

EXPERIENCE

2023-2024 **AI Lead** | Frost Digital Ventures (Frost and Sullivan) | Remote

- Led AI team in developing a RAG application to advance company research capabilities.
- Fine-tuned AI models using company data and conducted research to develop AI solutions.
- Supported recruitment and set strategic goals for AI team.

2021-Present **Academic and Technical Writer, Editor** | Freelance

- Projects include academic papers, technical papers, theses, web content, full-length books, magazines, etc.

2021 **Co-founder & CTO** | Tamo Robotics (Entrepreneur First) | Singapore

- Led the technical development of an interactive social robot for children, from concept to prototype.
- Developed the full hardware-software stack, including a touch-responsive robot and a connected Android app with speech recognition features.
- Directed product ideation, idea validation, customer research within an agile and scrum environment.

2020 **Developer Support Engineer** | Facebook | Singapore

- Collaborated with engineering teams to resolve technical issues for Facebook developers.

2015-2018 **Research Engineer** | Imagineering Institute | Malaysia

- Developed multisensory systems for transmitting touch, taste, smell sensations over the Internet
- Managed teams of engineers across various projects, assisted lab director with a wide range of tasks

- Delivered public speeches and demonstrations at international conferences and exhibitions
- Organised and coordinated several international conferences

2014 **Frontend Developer** | UK Trade and Investment Entrepreneurship Program | London

- Core member of a startup team developing a peer-to-peer fashion rental platform
- Redesigned and implemented the web interface for the beta launch
- Collaborated closely with founders and users in a fast-paced startup environment.

2013 **Research Assistant** | HKUST-NIE Social Media Lab | Hong Kong

- Designed and developed a gesture-controlled wearable device
- Coached students on iOS development

Education

2013 | B.Eng. Electronic Engineering | Hong Kong University of Science and Technology

- First Class Honors, Dean's List for 2 semesters

2014 - 2016 | MPhil/PhD in Computer Science, City, University of London (Upgraded to PhD)

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

2023 - Present | PhD in Artificial Intelligence | Nanjing University of Information Science and Technology

- Research topic: Integrating Affective Haptics in Human-Human and Human-AI Interactions

Publications

See my complete list of publications at my Google Scholar profile:
https://scholar.google.com/citations?user=JPjFr4YAAAAJ&hl=en