

(Aven) Le ZHOU

FRSA, aCSDF

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Expertise

interactive media and creative artificial intelligence; interactive technologies, e.g., creative coding, physical computing, generative algorithms.

Research

emerging media for creative practices e.g., artistic AI, generative deep learning, computer vision for interaction, augmented reality and etc.

Education

M.S., Multimedia & Telecommunication.
School of Advanced Technology.
University of Liverpool.

Other Non-degree Studies.
Machine Learning Summer School at Duke;
Interactive Media Arts Summer School at NYU; and
Exchange at **University Technology Sydney.**

B.Arch., Architecture.
School of Architecture and Urban Planning.
HUAZHONG University of Science and Technology.

Academic Appointments

Lecturer	Xi'an Jiao Tong - Liverpool University. Department of Industrial Design.	2020-Present
Director &Principal Investigator	Xi'an Jiao Tong - Liverpool University. Interactive Experiences Lab.	2020-2022
Instructor	New York University Shanghai. Interactive Media Arts Program.	2019-2020
Research Fellow	New York University Shanghai. Interactive Media Arts Program.	2014-2019
Short-term Roles	Adjunct Faculty at Shanghai Jiao Tong University; Adjunct Faculty at Shanghai Academy of Design & Art.	2019 2016-2018

Professional Experiences

Fellow	Royal Society of Arts.	2022-Present
Affi. Fellow	Chartered Society of Designers.	2022-Present
Consultant	CODESign Creative Technologies Co.,Ltd. (Closed)	2020-2021
Founder	artMachines Studio. Shanghai. (Closed)	2019-2020
Innovator	Software Innovator Program. Intel Corporation.	2019-Present
Artist	Creative Practices with Emerging Technologies.	2014-2019

Publications [16] & Awards [7]

Journal Article or Conference Proceedings Papers [7]

Zhou, Le and Fuqi Xie (2022). **Welcome To Heshan: An Installation To Create Immersive And Entertaining Experiences With Local Art Through Interactive Media Technologies**. In: Rau, PL.P. (eds) Cross-Cultural Design. Applications in Learning, Arts, Cultural Heritage, Creative Industries, and Virtual Reality. HCII 2022. Lecture Notes in Computer Science, vol 13312. Springer, Cham. (peer reviewed; DOI: 10.1007/978-3-031-06047-2_22; published 16-June-2022).

Li, Zixin and **Le Zhou** (2021). **The Museum of Dreams: Exploring a “Dreaming” Visual Experience via Machine Vision and Visual Synthesis**. In: Rau PL.P. (eds) Cross-Cultural Design. Applications in Arts, Learning, Well-being, and Social Development. HCII 2021. Lecture Notes in Computer Science, vol 12772. Springer. (peer reviewed; DOI: 10.1007/978-3-030-77077-8_3; published 03-July-2021).

Zhou, Le, and Jace Hargis (2020). **Integrating Live Coding And Interactive Syllabus To Engage Students In An Interactive Media Arts Course**. In: The Online Journal of New Horizons in Education, 2020: 10(2): 106-114 (peer reviewed; DOI: 10.13140/RG.2.2.29465.57440; ISSN: 2146-7374; published 1-Apr-2020).

Zhou, Le, Qiufeng Wang, Kaizhu Huang and Cheng-Hung, Lo (2019). **An Interactive and Generative Approach for Chinese Shanshui Painting Document**. 2019 International Conference on Document Analysis and Recognition (ICDAR), Sydney, Australia, 2019: 819-824 (peer reviewed; DOI: 10.1109/ICDAR.2019.00136; published 25-Sept-2019).

Zhou, Le (2019). **Walking Through Shanshui: Generating Chinese Shanshui Paintings via Real-time Tracking of Human Position**. IEEE/CVF International Conference on Computer Vision Workshop (ICCVW), Seoul, Korea (South), 2019: 3185-3188 (peer reviewed; DOI:10.1109/ICCVW.2019.00395; published 28-Oct-2019).

Zameek, Abdullah, and **Le Zhou** (2019). **ConfessorBot: Can Machine Learning Algorithms Identify, Understand and even Confess with Human Emotion?** The 5th Art and Science International Exhibition and Symposium, Beijing, China, 2019: 00-00 (peer reviewed; published 04-Nov-2019)

Zhou, Le, Qiufeng Wang, Kaizhu Huang and Cheng-Hung, Lo (2018). **ShanshuiDaDA: An Interactive, Generative System towards Chinese Shanshui Painting**. The Thirty-second Annual Conference on Neural Information Processing Systems. NeurIPS 2018, Machine Learning for Creativity and Design Workshop, Montreal, Canada. (peer reviewed; published 08-Dec-2018)

Demo Published at Conferences [5]

Zhou, Le (2020). **Walking Through Shanshui**. The Thirty-fourth Annual Conference on Neural Information Processing Systems. NeurIPS 2020, Machine Learning for

Creativity and Design Workshop 4.0, Virtual Online.

Zhou, Le. (2019). **A Responsive System that Generates Chinese Guqin Music from Real-time Human Input.** IRCAM Forum, Shanghai Conservatory of Music, Shanghai, China.

Zhou, Le (2019). **ZICHI.** The Thirty-third Annual Conference on Neural Information Processing Systems. NeurIPS 2019, Machine Learning for Creativity and Design Workshop, Vancouver, Canada.

Zhou, Le (2019). **Walking Through Shanshui.** The International Conference On Computer Vision. ICCV 2019, Second Workshop on Computer Vision for Fashion, Art and Design, Seoul, Korea.

Zhou, Le (2018). **ShanshuiDaDA.** The Thirty-second Annual Conference on Neural Information Processing Systems. NeurIPS 2018, Machine Learning for Creativity and Design Workshop, Montreal, Canada.

E-Print or Pre-Published Articles [4]

Wu, Yueshen and **Le Zhou** (2021). **The Running Ink (and) Painting: Re-Generate Chinese Painting Experiences with Interactive Liquid Effects.** e-Print On Research Gate, 2021.

Zhou, Le (2020). **ZICHI: A Responsive System that Generate Chinese Guqin Music from Real-time Human Input.** e-Print On Research Gate, 2020.

Zhu, Yucheng, Yanrong Ji, Yueying Zhang, Linxin Xu, **Aven Le Zhou** and Ellick Chan (2019). **Machine: The New Art Connoisseur.** e-Print on arXiv, 2019.

Zhou, Le (2020). **Therem{ai}n: An AI Enhanced Musical Instrument that Responds, Accompanies and Inspires.** e-Print On Research Gate, 2018.

Conference/Symposium/Research Presentations [11]

Li, Zixin and **Le Zhou** (2021). *The Museum of Dreams: Exploring a “Dreaming” Visual Experience via Machine Vision and Visual Synthesis.* Presented at: HCI International 2021, Online, 24-July-2021 – 29-July-2021 (invited, conference oral presentation)

Zhou, Le. (2020). *Chinese New Literati.* Presented at: Master Lectures On Live at Shanghai Library, Shanghai, China. 17-Nov-2020.(invited keynote speaker)

Zhou, Le. (2019). *Create with Artificial Intelligence.* Presented at: New Challenges at the Era of AI and 5G. *Shanghai Science and Technology EXPO*, Shanghai Exhibition Center, Shanghai, China. 24-Aug-2019.(invited keynote and panel discussion)

Zhou, Le. (2019). *Create with Artificial Intelligence.* Presented at: Musical Artificial Intelligence, MTA Musical Festival. Beijing, China. 30-June-2019. (invited keynote and panel discussion)

Zhou, Le. (2019). *Create with Artificial Intelligence*. Presented at: Artificial Intelligence and Arts, the Trends in China Symposium. Shanghai Maker Carnival, Jiangwan Stadium, Shanghai, China. 18-Oct-2019.(invited keynote and panel discussion)

Zhou, Le. (2019). *A Responsive System that Generates Chinese Guqin Music from Real-time Human Input*. Presented at: IRCAM Forum, Shanghai Conservatory of Music, Shanghai, China. 01-Nov-2019.(invited spotlight speaker)

Zhou, Le. (2019). *Create with Artificial Intelligence*. Presented at: School of Innovation and Art, Shanghai Tech University. Shanghai, China. 28-Nov-2019.(invited speaker)

Zhou, Le. (2019). *An Interactive and Generative Approach for Chinese Shanshui Painting Document*. The 15th International Conference on Document Analysis and Recognition (ICDAR) 2019, Sydney, Australia. 25-Sept-2019.(conference poster presentation)

Zhou, Le. (2019). *Generate Chinese Shanshui Painting from Real-time Tracking of Human Position*. The Second Workshop on Computer Vision for Fashion, Art and Design, Seoul, Korea. 02-Nov-2019.(conference poster presentation)

Zhou, Le. (2019). *Can Machine Learning Algorithms Identify, Understand and even Confess with Human Emotion?* The 5th Art and Science International Exhibition and Symposium, Beijing, China. (conference oral presentation)

Zhou, Le. (2018). *ShanshuiDaDA*. Research Seminar at PremiLab, Xi'an-Jiaotong Liverpool University. Suzhou, China. 09-Nov-2018.

Zhou, Le. (2018). *ShanshuiDaDA: An Interactive, Generative System towards Chinese Shanshui Painting*. Machine Learning for Creativity and Design Workshop, NeurIPS 2018, Montreal, Canada.21-Dec-2018. (conference poster presentation)

Research or Practice Awards/Prizes [7]

Zhou, Le. (2020). **AI Artist Of the Week**, elected by the AI for Good Global Summit, ITU and XPRIZE Foundation.

Zhou, Le. (2019). **Intel Global Network Software Innovator** elected by INTEL.

Zhou, Le. (2019) **ZAOJIU Youth scholar** elected by ZAOJIU.

Zhou, Le.(2015) **Resident Research Fellow** at Interactive Media Arts Program at NYU Shanghai.

Zhou, Le, Wanyu Li and Wenhe Li (2019-2020). **The first prize of Next Idea Competition**, host by TENCENT.

Zhou, Le, Wanyu Li and Yupeng Cao (2019). **Winner** (among 40 final recipients of the world) of **Google PoweredByTF 2.0 Challenge** host by GOOGLE.

Zhou, Le. (2019). **The first prize of the Intel AI On PC Early Innovation Global Competition** host by INTEL.

Selected Projects

Interactive Media [5]

Interactive Media Installation Series at HESHAN. 2021. This interactive installation series is commissioned by Heshan Town, a small water town located in eastern China, where FONG TSE KA, was born and raised. The local government designed and built a resort village that referred to the story and art of the artist and named it “The Painter’s Ideal Village” to attract visitors worldwide. There is an Innovation Center and exhibition hall, next to the village entrance and the tourist centre, to host public gathering events and exhibitions. In the exhibition hall, the architect planned a permanent interactive wall that serves as a welcoming installation to welcome visitors and aims at promoting the local culture and the local artist - FONG TSE KA’s art to the audience in a modern and entertaining way :: [link to web-page](#).

E-counter. [慧.聚], 11/2020. The E-counter project is an audio-visual & dance performance, a collaborative project among visual artist, musician, dancer and programmer. It was first performed at Shanghai Exhibition Center as the open ceremony of the 10th anniversary of Shanghai city of design. The performer will play a laser Guzhen with the AI powered audio- visual system in duo, dancer’s movements will be captured and transformed to abstract visuals. Dancer and musician will perform with S/HW system in harmony. :: [link to web-page](#).

The City of Love. [爱乐之城], 04/2019 - 05/2019. The city of love is an artificial intelligence powered performance project (April 2019 - Present) and a collaboration among four different organizations at the city of Shanghai, including Tong Ji University, Shanghai Conservatory of Music, Shanghai Institute of Visual Art, and New York University, Shanghai. The performer will play a laser Guzhen with the AI powered audio- visual system in duo. :: [link to web-page](#).

The Spirit of Shanshui. [山水精神], 01/2019. The Spirit of Shanshui is an interactive installation by which the participant moves in front of a Kinect camera and abstract geometries - symbolized mountain and water elements - will bump-up from their head, fall and bounce. This installation utilizes interactive visual simulation for entertainment, and to bring attention to concept of the spirit of Shanshui and encourage the eastern Shanshui painting tradition. :: [link to web-page](#).

Chasing You [追逐], 12/2018 - 01/2019. Chasing You”` is an interactive installation with three individual parts. When audiences walk in front of / around the installation(s), the systems “see” and “track” their faces, and present the faces as a dynamic painting. Each sub-system equip with a face tracking unit to detect human faces and a display unit to present faces in visuals. This installation takes the initiative authority and grants the computer program the right to “chase” human and poses the question: Can machines own principal authority in the human-machine relationship? More details. :: [link to web-page](#).

Interactive Media & Artificial Intelligence Arts [7]

Known Beauty. [不知依是画中人], 08/2019. Known Beauty is a commission project by

Tencent Next Idea Program. The idea is to transfer the selfie of a participant to the style of crafts (like ancient Chinese vases) and hide/emerge the result into the original piece. With the technology advancements in AI, we design and build software to bring the culture to life and present it with modern language, so to draw public interests to the tradition. :: [link to web-page](#).

Fusion Beauty [湖湘画中人], 09/2019 - 12/2019. Fusion Beauty is an alike project as Known Beauty but applies to art-crafts from Hunan Provincial Museum. :: [link to web-page](#).

Distributed Creativity, 11/2019 - Present. Distributed Creativity is an experiment criticize the definition of creativity and how to approach it. The experiment runs as an artist workshop, in which the participants first learn the basics of Artificial Intelligence / machine learning and then driven by a set of guidance and rules to collaborate with other peer participants with the AI's assistance. None individual participant nor the AI or the artist is driving the creative process solely but every of us is complementary. The contributions are distributed, so are the creation and the creative process. :: [link to web-page](#).

Walking Through Shanshui [行走的山水], 01/2019. Walking through Shanshui" is an interactive installation based on AI and is dedicated to providing participants with a similar experience of creating Shanshui as in ancient times with various technologies. This piece seeks to honor the traditions and experiences that capture the graceful movements of travelers in natural spaces to create Shanshui, and attempts to mimic the traveling experience with walking in a room-size installation. :: [link to web-page](#).

ZICHI [子期], 11/2018 - 12/2018. ZICHI is an interactive musical AI. It is a musical intelligence who can "understand" the music from participants and compose new melody to play back with the tone of Guqin. When deep cultural heritage meets rapidly changing forms of art powered by technological advancements, this project is dedicated to building a creative and collaborative AI profile, where AI captivates the imagination to enhance creativity. :: [link to web-page](#).

Therem{ai}n [爱琴], 11/2018. Therem{ai}n is an artificial intelligence enhanced musical instrument/toy that responds, accompanies and inspires you. The participant will play the musical instrument as regular, the AI will generate new melody to play back in the tone of a theremin. This project is going beyond the novelty of an AI-based performance and homing in how in a world where AI is often seen as a replacement for jobs and production, that AI can accompany, assist, and respond to our creative process. :: [link to web-page](#).

ShanshuiDaDA [达达山水], 06/2018-10/2018. ShanshuiDaDA is an interactive installation that utilizes machine learning algorithm in helping amateur participants realize traditional Chinese Ink Wash Paintings. The audience is invited to sketch a simple line drawing representation of their ideal landscape painting, "ShanshuiDaDA" will generate a Chinese "Shanshui" based the user's input. This project seeks to find AI's role in traditionally human centered areas. By way of challenging the creator's conventional position, the artist poses the questions: Can we collaborate with AI to better facilitate, even enhance human creativity? :: [link to web-page](#).

Note: More details of my these projects can be found if click link at the end or go to website: <https://www.aven.cc/>

Selected Exhibitions and Performances [12]

Design the {Code the {Design the {X}}} [Group Exhibition] at **Gallery Staircase**, Suzhou, China. 01/08/2021 - 03/08/2021.

Machine Learning for Creativity and Design 4.0 [Group Exhibition] at **AI Art Gallery**, Online. 12/02/2020.

Machine Learning for Creativity and Design 3.0 [Group Exhibition] at **AI Art Gallery**, Vancouver, Canada. 12/14/2019.

Computer Vision for Fashion, Art and Design [Group Exhibition] at **Computer Vision Art Gallery**, Seoul, Korea. 11/02/2019.

Chinese New Literati [Solo Exhibition] at **The 88th Izmir International Fair**, Kulturpark, Izmir, Turkey. 09/04/2019 - 09/11/2019.

Chinese New Literati [Solo Exhibition] at **DaNing International**, Shanghai, China. 06/25/2019 - 06/29/2019.

Chinese New Literati [Solo Exhibition] at **Shanghai World Expo Exhibition& Convention Center**, China. 04/18/2019 - 04/21/2019.

The Love of Shanshui [First Solo Exhibition] at **Shanghai Duolun Museum of Modern Art**, China. 01/11/2019 - 02/25/2019.

Dialog: a bit more AI [Dual-Sole Exhibition] at **Fouhaus+**, Shanghai, China. 12/22/2018 - 02/28/2019.

Machine Learning for Creativity and Design 2.0 [Group Exhibition] at **AI Art Gallery**, Montreal, Canada. 12/21/2018.

DaDA: A Platform to Design and Draw with AI [Dual Solo Exhibition] at **Yeah Nah! Gallery**, Shanghai, China. 11/15/2018 - 12/01/2018.

"ShanshuiDaDA" [Group Exhibition] at **Shanghai Maker Carnival**, China. 10/12/2018 - 10/14/2018.

Selected Performances [3]

E-ncounter [Live Performance] at **The 10th Anniversary of Shanghai City of Design at Shanghai Exhibition Center**, Shanghai, China. 11/20/2020.

The City of Love at Beauty of Uncertainty in the age of AI [Live Performance] at **The Docker@TONGJI Design Week**, Shanghai, China. 10/14/2019.

The City of Love [Live Performance:] at **DaNing International**, Shanghai, China. 06/27/2019.

Artist Talks, Interview and Workshops [17]

Interview: **Create with Artificial Intelligence**. Interviewed by the AI for Good Global Summit, ITU and XPRIZE Foundation, Online. 12/31/2020.

Artist Workshop: **Create with Artificial Intelligence**. OF Course Gallery, Shanghai, China. 01/04/2020.

Artist Workshop: **Create with Artificial Intelligence**. Future Lab, West Bund Art Center, Shanghai, China. 11/25/2019.

Artist Talk: **The City of Love. Beauty of Uncertainty in the age of AI**, The Docker@TONGJI Design Week, Shanghai, China. 10/14/2019.

Interview: **When Shanshui Meet AI**. Interviewed by Youth Daily (Shanghai local press) with a full page report on my story of using AI create art. 09/15/2019.

Artist Talk: **The City of Love**. DaNing International, Shanghai, China. 06/27/2019.

Artist Talk: **The City of Love**. Shanghai Science& Technology Festival. Shanghai Science and Technology Museum , China. 05/23/2019.

Artist Talk: **The Shanshui Nature Created by AI and US**. Notes On Nature, Modern Weekly. Shanghai, China. 03/08/2019.

Artist Talk: **Creative AI, Collaborative AI, and Chinese Heritage**. Processing Community Day. Shanghai, China. 02/24/2019.

Artist Tour: **The Love of Shanshui**. Shanghai Duolun Museum of Modern Art, China. 01/26/2019.

Artist Talk: **The Love of Shanshui**. Shanghai Duolun Museum of Modern Art, China. 01/11/2019.

Artist Talk: **Dialog: a bit more AI**. Fouhaus+, Shanghai, China. 12/22/2018.

Artist Talk: **An AI Enhanced Musical Instrument that Responds, Accompanies and Inspires. Build For Digital Wellbeing**, Google Dev Festival. Shanghai, China. 11/25/2018.

Artist Talk and Panel Discussion: **How might AI Enhance Our Creativity?** ZAOJIU Youth, ZAOJIU. Suzhou, China. 11/24/2018.

Artist Talk: **TheremAI**: A Musical AI can Response, Accompany and Inspire. Shanghai Google Developer Group. Shanghai, China. 11/17/2018.

Artist Talk: **ShanshuiDaDA**. Open Night, Mushroom Cloud Maker Space. Shanghai, China. 10/25/2018.

Artist Talk: **How might AI Enhance Our Creativity?** Shanghai Maker Carnival. Shanghai, China. 10/14/2018.

Teaching

Xi'an Jiao Tong - Liverpool University:

Module Leader (2020 -) at M.Des. Industrial Design and B.S. Industrial Design

Studio: Concept Generation & Interaction	Spring 2021/22
Introduction to Human Computer Interaction	Spring 2021/22
Advanced Design Visualization and Communication.	Fall 2020/21/22
Design Expression	Spring 2020

New York University, Shanghai:

Module Leader (2019-20) and Recitation Instructor (2015-17) at B.S. Interactive Media Arts.

Artificial Intelligence Arts.	2019 -2020
Interactive Machine Learning.	2019
Interaction Lab Recitation (creative coding & physical computing).	2015 - 2017
Digital Fabrication.	2016

Shanghai JIAO TONG University:

Module Tutor (2019) at MA. Cultural and Creative Industry.

Innovation, Creativity and Entrepreneurship (creative coding).	2019
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NYUSPS at New York University, Shanghai:

Area Head (Summer 2016-2019) at High School Academy.

Introduction to Creative Programming.	2019
Programming Web Design.	2017/18/19
Video Game Design.	2016/17/18/19
Digital Film Making.	2016

WPP School of Marketing and Communication:

Area Head (2016-2018) at B.S. New Media and Communication.

See Through Kinect.	Spring 2018
Make Design Interact.	Fall 2017
Interactive Installation.	Spring 2017
Creative Coding and Making.	Fall 2016

Profile

Professor and Artist Programmer.

Aven Le ZHOU (周乐) is a professor and artist programmer who works with Creative Artificial Intelligence and Interactive Media. His practice and research interests spread in various emerging media formats, and more recently, he has focused on utilizing artificial intelligence and generative deep learning to effectuate human-AI collaborative creativity.

His first solo exhibition, "The Love of Shanshui, 2019", was held in the Shanghai Duolun Museum of Modern Art. His recent solo exhibitions include "Chinese New Literati, 2019", a touring exhibition at the Shanghai World Expo Exhibition & Convention Center, the Shanghai DaNing Library, and the Izmir International Fair, Turkey. Some selected group exhibitions include "Machine Learning for Creativity and Design, 2019" at AI Art Gallery, Vancouver (2019), Montreal (2018), Canada; "Computer Vision for Fashion, Art & Design, 2019" at Computer Vision Art Gallery, Seoul, Korean; "Dialog: a bit more AI, 2018" at Fouhaus+, Shanghai; and "ShanshuiDaDA, 2018" at Yeah!Nah Gallery, Shanghai.

Aven has led Artificial Intelligence Arts and Interactive Media Arts research and teaching in various institutions. He is now an Assistant Professor and Director of Interactive Experiences Lab at Xi'an Jiaotong - Liverpool University, which focuses on creative AI and interactive media art and design. Before that, he was an instructor (2019-2020) and resident research fellow (2014-2019) in the interactive media art program at NYU Shanghai.

References

Ms. Marianne Petit, marianne.petit@nyu.edu

Associate Arts Professor and Associate Vice Chancellor, New York University.

Prof. Jace Hargis, jace.hargis@gmail.com

Professor and Director of the Center for Teaching & Learning, New York University, Shanghai.

Dr. Ellick Chan, ellick.chan@intel.com

Head of University Relations and Research, Intel AI Academy, Intel Corporation.

Dr. Cheng-Hung Lo, CH.Lo@xjtlu.edu.cn

Senior Associate Professor, Xi'an JiaoTong - Liverpool University.

Prof. Kaizhu Huang, Kaizhu.Huang@xjtlu.edu.cn

Professor and Associate Dean of Research, Xi'an Jiaotong- Liverpool University.