

Aven
Le ZHOU
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www.aven.cc

Education

Expertise

creative artificial intelligence;
cultural innovation; digital
media art and interactive
technologies, e.g., creative
coding, physical computing,
generative design, and digital
fabrication.

Research

emerging technologies for
creative practices, artistic AI,
generative machine learning,
augmented reality and other
emerging interactive media.

M.S., Multimedia & Telecommunication.
(Creative Artificial Intelligence).

University of Liverpool.
School of Advanced Technology at XJTLU.

Non-degree Studies.
(Emerging creative practices.)
Summer School at **Duke, Tsinghua** and **NYU**;
Exchange at **UTS**;

B.Arch., Architecture.
(Architecture and Generative Design).
Huazhong University of Science & Technology.
School of Architecture & Urban Planning.

Academic Appointments

Assistant Professor	Xi'an Jiao Tong - Liverpool University. Department of Architecture and Design.	2020-Present
Director &Principal Investigator	Xi'an Jiao Tong - Liverpool University. Interactive Experiences Lab.	2020-Present
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 ; Summer Contract Faculty at NYU Shanghai SPS ;	2019-2020 Summer 2016-2019

Professional Experiences

Creative Director	artMachines. Shanghai. AI-augmented, artist-run studio	2020-Present
Innovator	Software Innovator Program. Intel Corporation. Developer group demonstrates a spirit of ingenuity, experimentation, and forward thinking.	2019-2020
Artist	Creative Practices with Emerging Media.	2014-2019

Publications

Conference and Journal Articles (peer-reviewed)

(WIP.) **Create with Artificial Intelligence: Machine Learning as New Design and Artistic Approach.** Work-in-Progress, Work-in-Progress Collaborative Work with Intel AI .

(WIP.) **ZICHI: A Responsive System that Generate Chinese Guqin Music from Real-time Human Input.** Work-in-Progress Collaborative Work with Intel AI Academy.

(arXiv Preprint Paper.) **Machine: The New Art Connoisseur.** Collaborative Work with Staff from Northwestern University and Intel AI Academy

(1st Author, Demo Accepted to NeurIPS 2019 Workshop.) **ZICHI.** The Thirty-third Annual Conference on Neural Information Processing Systems. NeurIPS 2019, Machine Learning for Creativity and Design Workshop, Vancouver, Canada.

(Submitted, 1st Author.) **Integrating Live Coding and Interactive Syllabus to Engage Students in a Media Arts Course.** Submitted to The Online Journal of New Horizons in Education.

(Corresponding Author, Paper Accepted to TASIES 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

(1st Author, Demo Accepted to ICCV 2019 Workshop.) **Walking Through Shanshui.** The International Conference On Computer Vision. ICCV 2019, Second Workshop on Computer Vision for Fashion, Art and Design, Seoul, Korea.

(1st Author, Paper Accepted to ICCV 2019 Workshop.) **Walking Through Shanshui: Generating Chinese Shanshui Paintings via Real-time Tracking of Human Position.** The International Conference On Computer Vision. ICCV 2019, Second Workshop on Computer Vision for Fashion, Art and Design, Seoul, Korea.

(1st Author, Paper Accepted to ICDAR 2019.) **An Interactive and Generative Approach for Chinese Shanshui Painting Document.** The 15th International Conference on Document Analysis and Recognition. ICDAR 2019, Sydney, Australia.

(1st Author, Demo Accepted Demo to NeurIPS 2018 Workshop.) **ShanshuiDaDA.** The Thirty-second Annual Conference on Neural Information Processing Systems. NeurIPS 2018, Machine Learning for Creativity and Design Workshop, Montreal, Canada.

(1st Author, Paper Accepted to NeurIPS 2018 Workshop.) **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.

*Note: More details of my research projects and publications can be found Research Gate:
https://www.researchgate.net/profile/Aven_Zhou*

Grants and Fellowship

Project grant	Next Idea Project Fund by Tencent Ltd. <u>AI + cultural innovation projects - Fusion Beauty & Known Beauty</u>	RMB 40, 000	2019 - 2020
Project grant	W International Art Project Fund by Pudong Media Group & Xinchang Water Town. AI + cultural innovation project - <u>ZICHI</u>	RMB 90, 000	2019
Pedagogical research grant	China MoE Curriculum Development Fund by Intel Cooperation & China Ministry of Education. Innovative curriculum development with emerging technology - <u>AI Arts</u>	RMB 50, 000	2019 - 2020
Travel grant	Intel Innovator Travel Fund by Intel Software Innovator Program. Presentation - <u>NeurIPS</u> Machine Learning for Creativity and Design Conference	USD 1, 000	2019
Travel grant	Intel Innovator Travel Fund by Intel Software Innovator Program. Presentation - <u>ICCV</u> Computer Vision for Fashion, Art and Design Conference	USD 1, 500	2019
Project grant	Cultural Innovation Fund by Shanghai Jingan Maker Development Center. AI + Cultural Innovation Projects Exhibition - Chinese New Literati	RMB 12, 000	2019
Postgraduate Scholarship	Postgraduate Scholarship by Xi'an Jiao Tong - Liverpool University. Tuition reduction - M.S. Multimedia and Telecommunication	RMB 27, 000	2017 - 2018
Professional development	Professional Development Grant by New York University, Shanghai. Attendance - <u>Duke-Tsinghua</u> Machine Learning Summer Camp	RMB 13, 600	2017
Professional development	Professional Development Grant by New York University, Shanghai. Attendance - <u>NYU ITP Camp</u>	USD 2, 500	2016

Selected Projects

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 an art 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 live 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](#).

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 Guzheng 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](#).

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 my website at: <https://www.aven.cc/>

Exhibitions

Machine Learning for Creativity and Design, Group Exhibition. AI Art Gallery, Vancouver, Canada. 12/14/2019.

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

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

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

Chinese New Literati, Solo Exhibition. Shanghai World Expo Exhibition & Convention Centre, China. 04/18/2019 - 04/21/2019.

Dialog: a bit more AI, Group Exhibition. Fouhaus+, Shanghai, China. 12/22/2018 - 02/28/2019.

Machine Learning for Creativity and Design, Group Exhibition. AI Art Gallery, Montreal, Canada. 12/21/2018.

DaDA: A Platform to Design and Draw with AI, Group Exhibition. Yeah Nah! Gallery, Shanghai, China. 11/15/2018 - 12/01/2018.

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

The Love of Shanshui, Interactive AI Arts, Solo Exhibition. Shanghai Duolun Museum of Modern Art, China. 01/11/2019 - 02/25/2019.

Workshops, Presentations and Talks

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

Contributed Presentation: ZICHI. Machine Learning for Creativity and Design, NeurIPS, Vancouver, Canada. 12/14/2018.

Invited Talk: Create with Artificial Intelligence. Shanghai Tech University. Shanghai, China. 11/28/2019.

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

Contributed Presentation: Can Machine Learning Algorithms Identify, Understand and even Confess with Human Emotion? The 5th Art and Science International Exhibition and Symposium, Beijing, China. 11/04/2019.

Contributed Presentation: Generate Chinese Shanshui Painting from Real-time Tracking of Human Position. Workshop on Computer Vision for Fashion, Art and Design, Seoul, Korea. 11/02/2019.

Contributed Presentation: A Responsive System that Generates Chinese Guqin Music from Real-time Human Input. IRCAM Forum, Shanghai Conservatory. 11/01/2019.

Invited Talk and Panel Discussion: Create with Artificial Intelligence. Shanghai Maker Carnival. Shanghai, China. 10/18/2019.

Invited Talk and Live Performance: The City of Love. Beauty of Uncertainty in the age of AI, Tongji Design Week, Shanghai, China. 10/14/2019.

Contributed Presentation: An Interactive and Generative Approach for Chinese Shanshui Painting Document. The 15th International Conf. on Document Analysis and Recognition (ICDAR) 2019, Sydney, Australia. 09/25/2019.

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.

Invited Talk and Panel Discussion: Create with Artificial Intelligence. Shanghai Science and Technology EXPO 上海科博会. Shanghai Exhibition Center, China. 08/24/2019.

Invited Talk and Panel Discussion: Create with Artificial Intelligence. MTA Musical Festival. Beijing, China. 06/30/2019

Invited Talk and Live Performance: The City of Love. DaNing International, Shanghai, China. 06/27/2019.

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

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

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

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

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

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

Contributed Poster Presentation: An Interactive, Generative Approach to Chinese Shanshui. Machine Learning for Creativity and Design, NeurIPS, Montreal, Canada. 12/08/2018.

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

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

Invited Talk and Demo: TheremAIn: A Musical AI can Response, Accompany and Inspire. Shanghai Google Developer Group. Shanghai, China. 11/17/2018.

Invited Talk and Demo: ShanshuiDaDA. PremiLab, Xi'an-Jiaotong Liverpool University. Suzhou, China. 11/09/2018.

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

Invited 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. <u>Industrial Design</u> and B.S. <u>Industrial Design</u>	2020-2021
Advanced Design Visualization and Communication.	
Studio: Concept Generation & Interaction	2020
Introduction to Human Computer Interaction	2020-2021

New York University, Shanghai

Module Leader (2019-2020) and Recitation Instructor (2015-2017) at B.S. <u>Interactive Media Arts</u> .	
Artificial Intelligence Arts.	2019 -2020
Interactive Machine Learning.	2019
Interaction Lab Recitation.	2015 - 2017
Digital Fabrication.	2016

Shanghai JIAO TONG University.

Module Tutor (2019) at MA. <u>Cultural and Creative Industry</u> .	
Innovation, Creativity and Entrepreneurship.	2019

NYUSPS at New York University, Shanghai.

Area Leader (Summer 2016-2019) at <u>High School Academy</u> .	
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 Leader (2016-2018) at B.S. New Media and Communication.	
See Through Kinect.	2018
Make Design Interact.	2017
Interactive Installation.	2017
Creative Coding and Making.	2016

Profile

AI Artist, Assistant Professor, and Research Lab Director.

Aven Le ZHOU (周 乐) is an artist scholar and creative technologist work with creative Artificial Intelligence. He founded the AI-augmented creative studio -- artMachines and leads cross-disciplinary practices in said organization. His artworks and research interests spread in interactive media, generative art and machine vision for creative interactions. He recently focuses on utilizing interactive artificial intelligence and generative machine learning to effectuate human-AI collaborative creativity.

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

Aven has been teaching AI Arts, Computer Arts and Interactive Media Arts in various institutions. He is now an Assistant Professor and Director of Interactive Experiences Lab at Xi'an Jiaotong - Liverpool University, focuses on creative AI and interactive media design. Prior to that, he taught AI Arts and Interactive Machine Learning at NYU Shanghai and Computer Arts courses at Shanghai Jiao Tong University. Prior that, he was a resident research fellow at 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.

Note: A separate CV detailing professional and industry experiences is available upon request by email.