

MENGYU CHEN

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I am a creative developer, researcher and designer with six-year experience in human computer interaction and five-year experience in AR/VR development.

EDUCATION

University of California Santa Barbara

2016 - 2022 | PhD Media Arts and Technology

Rhode Island School of Design

2013 - 2015 | MFA Digital+Media

Grinnell College

2009 - 2013 | BA Art + East Asian Studies

VISUAL & SPATIAL DESIGN

3ds Max | Maya | Zbrush | Substance | Creative Suite

SOFTWARE DEVELOPMENT

C# .NET | Unity | C++ | DirectX 11 & 12 | HLSL | Python
PyTorch | Kinect | Java | Q# | Quantum Computing

RAPID PROTOTYPING

Laser Cutting | CNC | 3D Printing | Raspberry PI

INDUSTRY EXPERIENCE

Immersive Video Engineer Intern

JUN 2021 - DEC 2021

Vimmersve Inc. *San Jose, CA*

- Developed a phone-based immersive video player that supports real-time 6 DoF gesture interaction, streaming and custom view synthesis (demoted at AWE 2021).
- Created an early stage proof-of-concept prototype that successfully helped the company get seed funding from top-tier startup accelerator (acceptance rate 1.5% - 3%).

Immersive Video Rendering Engineer Intern

JUN 2020 - JUN 2021

xPU Architecture, Intel Corporation *Santa Clara, CA*

- Developed and built a real-time 6DoF interactive and immersive video playback system for multi-view camera video bitstreams using GPGPU pipeline
- Demoed and published final products at IEEE ICCV 2021, OSA 2021, and SPIE 2021.
- Contributed to next generation MPEG-I video standard.

AI Research & Testing Intern

JAN 2020 - JUN 2020

Technology Development, Sony Pictures Entertainment *Los Angeles, CA*

- Invented new machine learning based methods for image contour extraction and moving object segmentation in high-resolution videos (patent pending).
- Researched and evaluated latest ML toolkits for entertainment media content production including object recognition, face swapping, and speech sentiment detection.

Magic Lab R&D Intern

JUN 2019 - DEC 2019

R&D Department, PlayStation / Sony Interactive Entertainment *San Mateo, CA*

- Developed a mixed reality interactable virtual character with emotions and intelligence.
- Designed a new hardware based interface for cross-reality user input using a Rubik's cube.
- Collaborated with 3D artist on character design, modeling, animation, and interaction.
- Designed user evaluation task to test trustfulness of AI in relation to interaction methods.

Interaction & XR Designer

APR 2016 - SEP 2016

D-Gene Digital Technology Co., Ltd. *Shanghai, China*

- Collaborated with R&D team to conceptualize and prototype AR/VR products and interface.
- Researched on 3D reconstruction from lightfield data and point cloud scans.

RESEARCH EXPERIENCE

- Graduate Researcher - AR/VR Authoring Tool** FEB 2020 - PRESENT
Perceptual Engineering Lab, UCSB Santa Barbara, CA
- Research and Develop interactive tools that help casual users to easily create AR/VR stories.
 - Design and conduct user studies to evaluate and improve usability of tools.
- Graduate Researcher - Spatial Recognition** SEP 2019 - JAN 2020
Center for Virtual Environments and Behavior, UCSB Santa Barbara, CA
- Created VR environment and research on spatial recognition and decision making factors.
 - Developed and designed maze-based task to test user spatial memory and pathfinding ability.
- Graduate Researcher - Mixed Reality** SEP 2017 - JUN 2019
transLAB, UCSB Santa Barbara, CA
- Researched on mixed reality social interaction, haptic interaction, and spatial computing.
 - Developed toolkits for rapid worldmaking, rapid content creation, and visual effects.

PUBLICATION

- “EntangleVR: A Visual Programming Interface for Virtual Reality Interactive Scene Generation”** DEC 2021
Osaka, Japan
Mengyu Chen, Marko Peljhan, Misha Sra
ACM Symposium on Virtual Reality Software and Technology (VRST)
- “SceneAR: Scene-based Micro Narratives for Sharing and Remixing in Augmented Reality”** OCT 2021
Bari, Italy
Mengyu Chen, Andrés Monroy-Hernández, Misha Sra
IEEE International Symposium on Mixed and Augmented Reality (ISMAR)
- “Simplified Carriage of MPEG Immersive Video in HEVC Bitstream”** AUG 2021
San Diego, CA
Mengyu Chen, Basel Salahieh, Max Dmitrichenko, Jill Boyce
SPIE Optics and Photonics
- “An Overview of MPEG Immersive Video”** JUL 2021
Washington, DC
Basel Salahieh, Mengyu Chen, and Jill Boyce
OSA 3D Image Acquisition and Display
- “Reincarnation: Virtual Reality Recreation of Surrealist Paintings”** JUL 2019
Los Angeles, CA
Jing Yan, Mengyu Chen
ACM Special Interest Group on Computer Graphics and Interactive Techniques (SIGGRAPH)
- “Biometric Visceral Interface: A Soft Robotic Immersive System for Extended Perception”** JUN 2019
Gwangju, South Korea
Mengyu Chen, Jing Yan, Yin Yu
International Symposium on Electronic Art (ISEA)
- “Biometric Perception Interface: A Multisensory Soft Robotic Agent for Affective Social Interaction”** MAR 2019
Lille, France
Mengyu Chen, Jing Yan, Yin Yu
International Workshop on Haptic and Audio Interaction Design (HAID)

TEACHING EXPERIENCE

- Teaching Assistant - Transvergence VR Worldmaking, UCSB Santa Barbara, CA** 2018 - 2019
- Instructor - Intro to Creative Programming, UCSB Santa Barbara, CA** 2017
- Teaching Assistant - Physical and Tangible Interfaces, UCSB Santa Barbara, CA** FALL 2016
- Instructor - Art_X Architecture, Rensselaer Polytechnic Institute Troy, NY** SPRING 2016
- Instructor - War Machine, Digital Media, RISD Providence, RI** WINTER 2015

TALKS & WORKSHOPS

EntangleVR - Paper Presentation, VRST 2021 <i>Osaka, Japan</i>	DEC 2021
SceneAR - Paper Presentation, ISMAR 2021 <i>Bari, Italy</i>	OCT 2021
MPEG Immersive Video - Paper Presentation, SPIE 2021 <i>San Diego, California</i>	AUG 2021
Computational Storytelling in AR&VR - Presentation, UNICAM <i>Camerino, Italy</i>	MAT 2021
Biometric Visceral Interface - Presentation, ISEA 2019 <i>Gwangju, South Korea</i>	JUN 2019
Biometric Perception Interface - Presentation, HAID 2019 <i>Lille, France</i>	MAR 2019
Code, Mediation, Ekistics - Talk, Undergraduate Seminar, UCSB <i>California</i>	NOV 2018
Code as Creative Medium - Talk, Undergraduate Seminar, UCSB <i>California</i>	OCT 2018
Intro to 3D Modeling - Workshop, ShanghaiTech University <i>Shanghai, China</i>	AUG 2016
The Energy Propagated - Presentation, ISEA 2015 <i>Vancouver, Canada</i>	AUG 2015
The Flying Machine - Talk, Undergraduate Seminar, RISD <i>Providence, RI</i>	JAN 2015
Pale Firework - Talk, Gelman Gallery <i>Providence, RI</i>	NOV 2014
Evidence Fetish - Panel Discussion, Artspace New Haven <i>New Haven, CT</i>	SEP 2014

HONOR & AWARDS

Media Arts and Technology Merit-Based Block Grant Fellowship, <i>UCSB</i>	2016 - 2021
RISD Bridge Grant on Art & Design Collaboration, <i>RISD</i>	JUN 2015
Digital Media Best Written Thesis Award, <i>RISD</i>	MAY 2015
Digital Media Department Merit-Based Fellowships, <i>RISD</i>	SEP 2013
Division of Student Affairs Art Purchase Prize, <i>Grinnell College</i>	MAY 2013
CIEE Photography Awards, <i>Sophia University, Tokyo</i>	JUL 2012

SELECTED INTERNATIONAL EXHIBITIONS

#WhatAYear , Axis Chengdu, <i>Chengdu, China</i>	OCT 2020
Currents New Media 2020 , Virtual VR Venue, <i>Santa Fe, NM</i>	AUG 2020
SIGGRAPH 2019 , Immersive Pavilion, Convention Center LA, <i>Los Angeles, CA</i>	JUL 2019
Refest 2019 , Navel LA, <i>Los Angeles, CA</i>	MAR 2019
Immerse[D] , Live House Hollywood, <i>Los Angeles, CA</i>	NOV 2018
Transpiration , Santa Barbara Center for Art, Science & Technology <i>Santa Barbara, CA</i>	NOV 2017
Festival Transito MX , National Arts Center <i>Mexico City, Mexico</i>	SEP 2017
Cologne OFF 2016 , Indian Council for Social Science Research <i>Meghalaya, India</i>	FEB 2016
Without Words Film Festival , Les Films Du Gabian <i>Marseilles, France</i>	DEC 2015
The Energy Propagated , Presentation, ISEA 2015 <i>Vancouver, Canada</i>	AUG 2015
It's Never As It Seems , Flux Factory <i>Long Island City, NY</i>	JUL 2015

LANGUAGES

JLPT N1 Certificate , the Japan Foundation and JESS	JAN 2012
English (Fluent), Japanese (Fluent), Chinese (Native), Korean (Beginner)	