

EDUCATION

- **University of Southern California** Los Angeles, CA
Master of Science in Machine Learning and Data Science Aug 2023 – May 2025
- **Beijing Jiaotong University** Haidian, Beijing
Bachelor of Engineering in Internet of Things Engineering Sep 2018 – June 2023

ONGOING PROJECTS

- **Personalizing Haptic Signals using Preference Learning**
Xin Zhu, Rongtao Zhang, Warren Dao, Erdem Btyik, Heather Culbertson
- **Vision-Driven Perception and Control for VR Surfing on a 6-DoF Motion Platform**
Premankur Banerjee, Rongtao Zhang, Jason Kutch, Heather Culbertson, et al.
- **Vision-Driven Wearable Haptic Glove for Telepresence**
Premankur Banerjee, Jiaxuan Wang, Rongtao Zhang, Heather Culbertson, et al.

ACADEMIC RESEARCH EXPERIENCE

- **USC HaRVI Lab, Research Intern** Los Angeles, California
Advised by Dr. Heather Culbertson Feb 2024 - Present
 - **Preference Haptic Learning:** Developed a preference-learning-based haptic recommendation system that performs interactive search, leveraging human preference feedback and model uncertainty to learn the latent distribution of users' haptic preferences.
 - **Vision-Driven Haptic Feedback Glove:** Implemented a vision-tracked haptic feedback module for a telepresence social interaction system, enabling remote interaction via a wearable haptic glove with haptic cues synchronized to visual tracking.
 - **VR Surfing Hand-Tracking Control:** Developed a hand-tracking and control module for a 6-DoF motion-platform VR surfing system, fusing hand kinematics with surfboard motion control to enhance interaction naturalness and VR presence.
- **CASIA Collective Decision Intelligence Lab, Research Intern** Haidian, Beijing
Advised by Dr. Haifeng Zhang and Dr. Ning Yang Sep 2022 - July 2023
 - **Reinforcement Learning:** Research focus on Reinforcement Learning for Mobile Edge Computing.
 - **Large Language Model:** Studied the technical roadmap and application scenarios of ChatGPT during its initial emergence.
- **BJTU INSIS, Research Intern** Haidian, Beijing
Advised by Prof. Youfang Lin Oct 2021 - Mar 2022
 - **Robot Manipulation:** Implemented an automatic refueling system for a mechanical arm via deep reinforcement learning.
- **Massachusetts Institute of Technology, Visiting Student** Remote
Advised by Prof. Mark Vogelsberger Aug 2020 – Oct 2020
 - **Image Inpainting:** Developed a demo showcasing watermark removal and image inpainting using Multi-Column Convolutional Neural Networks optimized with Genetic Algorithm.

INDUSTRY EXPERIENCE

- **Lenovo, AI UX and Software Development Intern** Haidian, Beijing
Lenovo Smart Voice Team Apr 2021 – Aug 2021
 - **User Requirement Analysis:** Investigated user needs and usage patterns for desktop-based intelligent voice assistants.
 - **Feature Implementation:** Assisted in developing functions such as wake-word recognition, voice command handling, and desktop app integration in Lenovo Smart Voice.
 - **Corpus Management and Deployment:** Built a data management system for internal voice corpus processing, and completed deployment of Lenovo Smart Voice on both Windows and Linux platforms.

EDUCATIONAL AND COMMUNITY ENGAGEMENT

- **USC Course Producer**
CSCI 649: Haptic Interfaces and Virtual Environments
Los Angeles, CA
Jan 2025 - May 2025
- **Teacher, Volunteer**
Middle School Mathematics
Gansu, China
May 2020 - Aug 2020
 - Helped a student improve math score by 50 points (out of 100); received the school's Rapid Progress Award.
- **Beijing Zoo, Volunteer**
Animal Welfare Guide
Haidian, Beijing
Mar 2019 - June 2019
 - Provided guidance to visitors on adhering to animal welfare practices during their zoo visit.

ACADEMIC SERVICE

- **Reviewer**
IEEE Communications Surveys & Tutorials; IEEE Transactions on Cognitive Communications and Networking
- **RLChina Member**
Local Organizer, RLChina at Beijing Jiaotong University
- **RSS 2025 Volunteer**
University of Southern California, Los Angeles

AWARDS

- **National Second Prize, Chinese Undergraduate Mechanical Engineering Innovation and Creativity Competition(7/326)**
- **BJTU Tech Star**
- **BJTU Excellent Student Cadre Scholarship**
- **BJTU Athletic Excellence Scholarship**
- **BJTU Academic Excellent Scholarship**