

Mr. Wenbin ZHOU

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ACADEMIC BACKGROUND

- ◆ **Department of Computer Science, Hong Kong University** Sep 2022- Aug 2023
Master of Science in Computer Science (**with Distinction**), GPA: 4.20/4.30
- ◆ **Computer Graphics Department, Purdue University** Aug 2018- Jun 2020
Ph.D. Student in Computer Graphics Technology
Research Assistant in High Performance Computer Graphics Lab, advisor **Bedrich Benes**
- ◆ **University of Science and Technology of China (USTC)**
 - School of Physics** Aug 2014- Jun 2018
Bachelor of Natural Science in Applied Physics, **Major GPA: 3.82/4.30, Rank: 2nd/52**
 - School of Computer Science and Technology** Aug 2016- Jun 2018
Minor in Computer Science

Relevant Courses: Optics (95), Computer Graphics (87), Computer Programming (95), Data Structures and Database (96), Computational Method (90), Theoretical Mechanics (91), Linear Algebra (97), Calculus (90), Discrete Mathematics (95)
Major Awards: 2016 National Scholarship (3/355), 2015 Kwang-Hua Scholarship (9/355), The First Prize of 2015 Chinese Mathematics Competitions (Top 5%)

RESEARCH EXPERIENCES

- ◆ **Emotion Recognition from Real-Time Videos** | Purdue University | Research Assistant Aug 2018- Jun 2020
Advisor: **Bedrich Benes**, George W. McNelly Professor of Technology, Purdue University
 - Collected more than 800k facial images with emotion labels to retrain the VGG_S network via transfer learning
 - Adopt the Russel's model of core affect to classify the emotion into 4 quadrants and achieve 66% overall test accuracy
 - Implemented a working application that is capable of reporting the user emotional state in real-time
- Publications:** Deep Learning-based Emotion Recognition from Real-Time Videos (**First Author**) and The Effects of Body Gestures and Gender on Viewer's Perception of Animated Pedagogical Agent's Emotions (**Second Author**), were included in *HCI International 2020* and published in *Multimodal and Natural Interaction*, Springer International Publishing.
- ◆ **Vision Correcting Display Project** | University of California, Berkeley | Research Assistant Jun 2017- Dec 2017
Advisor: **Brian A. Barsky**, professor at School of Electronic Engineer and Computer Science, UC Berkeley
 - Accelerated two previous prefilter algorithms by 86% faster (210ms -> 30ms) and 99.6% faster (270s -> less than 1s)
 - Created the Precise Forward Algorithm which reduced the rmse of simulation result from 24000 to 8000
 - Created the Average Filling Method and Middle Method which made the result brighter and clearer
 - Did the calculation in binocular situation by the binocular simulation algorithm and binocular prefilter algorithm
- ◆ **Multiple-fluid Simulation Based on SPH Method** | USTC | Research Assistant Jun 2017- Jun 2018
Advisor: **Ligang Liu**, professor at School of Mathematics, USTC
 - Adopt the mixture model and the volume fraction with traditional SPH method to calculate the kinematics of mixed fluid
 - Implemented the algorithm with particle system using C++ and Direct3D
 - Did the experiment of the dissolution process between two miscible fluids and two immiscible fluids
 - Rendered the surface of the fluids using Houdini to make the results look more realistic
- ◆ **Library Robot Project** | USTC | Team Leader Jun 2016- Oct 2016
Advisor: **Shengxiao GUAN**, associate professor at School of Information Science and Technology, USTC
 - Wrote 10k lines of efficient code on STM32 for the project to make sure the robot could work under most circumstance
 - Proposed an innovative solution by using gyroscope to let the lift platform raising smoothly and quickly
 - Led a team with four members and finally made a practical robot helping people return the book in library automatically

EXTRACURRICULAR ACTIVITIES

- ◆ **Student Union**, School of Physical Science, USTC | Activity Group Leader Sep 2014- Jun 2016
 - Held a fun running activity called "Color Run---The happiest 5k on the planet", with more than 300 students participant
 - Organized four annual technical training speeches about computer science, including Java, Html, Mathematica, and MATLAB, to help physical students improve their coding skills

ADDITIONAL INFORMATION

- ◆ **English Proficiency:** TOEFL 102, GRE 321
- ◆ **Software skills:** Proficient in C/C++, Python, OpenGL, OpenCV, Pytorch, Caffe, Unity 3D, Mathematica, MATLAB, Origin