Hengguang Zhou

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EDUCATION

Candidate of M.S. in Computer Science
University of California, Los Angeles   present
- Currently undertaking a comprehensive curriculum in Computer Science with a focus on Natural Language Processing
- **GPA: 3.904**/4.0

Honours Bachelor of Science with high Distinction, majored in Computer Science   2016 – 2021
University of Toronto, Toronto, ON, Canada
- **Selected Coursework:** Computer Graphics, Machine Learning, Computer Vision, Linear Algebra, Optimization, Probability, Algorithms, Software Engineering, Graph Theory
- **GPA: 3.79/**4.0
- **Honors:** Dean's List Scholar for Summer 2017, Winter 2018 and Winter 2019

RESEARCH EXPERIENCE

Project Lead **TurningPointAI, University of California, Los Angeles**   present
Multimodal Large Language Model
- Investigated oversensitivity issues in multimodal large language models (MLLMs) under specific visual stimuli under the supervision of Professor Cho-Jui Hsieh.
- Published as first author the paper ***"MOSSBench: Is Your Multimodal Language Model Oversensitive to Safe Queries?"***

Research Assistant   **DeepSE, Hong Kong University of Science and Technology**   2022
Document Understanding
- Studied on ontology-free visually rich documents understanding under the supervision of Professor Sung Kim and Lucy Park
- Secured the third place in VQAonBD(Visual Question Answering on Business Document Images) competition and the fifth place in SVRD(Structured Text Extraction from Visually-Rich Document Images) competition in ICDAR2023

Undergraduate Research Assistant   **Dynamic Graphics Project, University of Toronto** 2021
Mesh Convolution Neural Network
- Working on using attention mechanism and mesh convolutional neural network to improve neural subdivision on mesh under the supervision of Professor Alec Jacobson
- Developed a pooling layer on polygon mesh based on the self-attention mechanism, achieved state-of-the-art performance

Artificial Intelligence Lab Intern   **School of Software, Tsinghua University**   2018
Camera Constraint-Free Multi-View Convolutional Neural Network
- Investigated the camera constraint over-fitting issues in multi-view convolutional neural network under the supervision of Professor Yue Gao

- Co-authored the paper "***DeepCCFV: Camera Constraint-Free Multi-View Convolutional Neural Network for 3D Object Retrieval***", accepted by AAAI 2019

RELATED WORK EXPERIENCE

Intern Research Engineer   **HMI Lab, Huawei Technologies Canada**   2019-2020
Mobile Device Projection, Augmented Reality Project for User Study
- Provided a unique mobile devices simulation system for user interaction study of mobile prototype
- Implemented a projector-camera calibration algorithm in Unity to project a virtual phone screen on a simple hand-made paper phone prototype
- Utilized the OptiTrack motion capture system to provide real-time responses for interactions on the foldable phone prototype
- Co-authored the paper "***Tent Mode Interactions: Exploring Collocated Multi-User Interaction on a Foldable Device***"**,** accepted by MobileHCI 2020

VR Video Editing of Regular Field-of-View Videos from 360 Videos
- Developed a virtual reality application in Unity for creating and editing 2D videos from 360-degree videos in Head-Mounted devices
- Proposed a data structure to record the head movement of users and utilize it to analyze and mitigate motion sickness
- Invented a 3D timeline spatial and temporal information visualization

PUBLICATIONS

Xirui Li*, **Hengguang Zhou***, Ruochen Wang, Tianyi Zhou, Minhao Cheng, Cho-Jui Hsieh MOSSBench: Is Your Multimodal Language Model Oversensitive to Safe Queries?

Zhengyue Huang, Zhehui Zhao, **Hengguang Zhou**, X.Zhao, Yue Gao. "DeepCCFV: Camera Constraint-Free Multi-View Convolutional Neural Network for 3D Object Retrieval" AAAI 2019.

Gazelle Saniee-Monfared, Kevin Fan, Qianq Xu, Sachi Mizobuchi, **Lewis Zhou**, Pourang Polad Irani, Wei Li"Tent Mode Interactions: Exploring Collocated Multi-User Interaction on a Foldable Device" MobileHCI 2020

SKILLS

- Programming Languages: Python, C#; C++, MATLAB, Java, C, Javascript, SQL
- Frameworks and library: Pytorch, Tensorflow, Numpy, Transformers, UnityEngine