DINGXI ZHANG

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EDUCATION

University of Chinese Academy of Science | Dept. Computer Sciences **Beijing, China**
Bachelor of Computer Science Sep 2020 - Jun 2024

- Overall GPA: 3.97/4.00(1/126) Major GPA: 3.96/4.00(1/126)
- Selected Courses: Optics, Introduction to Machine Learning, Human-Computer Interaction, AI Computing Systems, Computer Architecture and Computer Graphics

Massachusetts Institute of Technology | Dept. EECS **Cambridge, MA, USA**
Exchange student Feb 2023 - May 2023

- GPA: 5.0/5.0
- Selected Courses: Advances in Computer Vision (A+) and Robotics: Science and System

Brown University | Dept. Computer Sciences **Providence, RI, US**
Visiting student Jun 2023 - Oct 2023
Host: Interactive 3D Vision & Learning Lab

PUBLICATION & MANUSCRIPTS

[1] **Dingxi Zhang** and Artem Lukoianov. 2023. Towards Efficient Local 3D Conditioning. In *SIGGRAPH Asia 2023 Posters (SA Posters '23), December 12-15, 2023*. ACM, New York, NY, USA, 2 pages. https://doi.org/10.1145/3610542.3626151 paper link

[2] Xiaojuan Li, **Dingxi Zhang,** Shuyu Chen, Fenglin Liu. StrokeFaceNeRF: Stroke-based Facial Editing in Neural Radiance Field. (*In submission to CVPR 2024*) paper link

RESEARCH EXPERIENCE

3D Vision and Graphics

Towards Efficient Local 3D Conditioning **MIT CSAIL**
Guide: Prof. Vincent Sitzmann Mar 2023-Aug 2023

- Proposed an innovative locally conditioned approach for shape representation which importantly made use of weight-encoded neural networks.
- Finished a poster paper as the first author and it was published on SIGGRAPH Asia 2023.

Stroke-based Facial Appearance Editing in NeRF **Institute of Computing Technology, CAS**
Guide: Prof. Lin Gao Sep 2023 - Nov 2023

- Successfully propose a novel stroke-based 3D facial NeRF editing method to achieve effective and precise appearance changes while greatly preserving the original geometry.
- Finishing a technical paper as the second author and the paper is submitted to CVPR 2024.

Text-to-action Hand Diffusion **Brown University**
Guide: Prof. Srinath Sridhar, Prof. Daniel Ritchie Jul 2023-Present

- Successfully proposed a diffusion-based text-conditioned generative model for hand motion

domain and a 3D hand motion dataset for many generation tasks.

- Successfully proposed a method for accurate 3D hand pose estimation from multiview images.

Interactive Point-based Manipulation on 3D Generative Model **MIT; UCAS**

Guide: Prof. Zhenliang He, Prof. Shiguang Shan Aug 2023 - Present

- Successfully proposed a method for interactive point-based editing in 3D space and explored an innovative drag editing paradigm into NeRF.

Vision and Affective Computing

Research on dynamics between cognitive load and emotional states **MIT Media Lab**

Guide: Dr. Sharifa Alghowinem, Mr. Brayden Zhang Host: Personal Robots Group Apr 2023-Jun 2023

- This project utilizes a cognitive load dataset with visual-auditory inputs and applies computational methods to unravel the relationship between the cognitive load and emotion.
- Successfully proposed a multi-modal and multi-task learning model that focuses on the determination and detection of the cognitive load and emotional states.

Viewpoint analysis on multiple devices **OPPO; Institute of Computing Technology, CAS**

Guide: Prof. Shiguang Shan, Prof. Jiabei Zeng Aug 2022-Oct 2022

- Successfully proposed a system that has the ability to precisely detect people's gaze points on a PC or phone screen through the application of the video acquired by the device's camera.
- Successfully proposed an app for data collection and contributed to the OPPO mobile smart assistant system

Research on atomic eye movement detection **Institute of Computing Technology, CAS**

- Successfully proposed a model that has the ability to detect eye movements with more interpretability and generality as a combination of atomic actions (e.g. Fixation, Saccade).

Human Computer Interaction

Interactive Computer Vision Cervical Spine Prevention System **Institute of Software, CAS**

Guide: Prof. Feng Tian Oct 2022-Dec 2022

- Designed a simple and efficient system to detect cervical posture in real-time, provide timely feedback to remind users to pose correctly, and an interactive game to guide the user to exercise their cervical spine scientifically. Also conducted a user-study to evaluate the system.
- Finished a technical paper as the first author and an offline demo.

Design for Synthetic Biology

Research on Genetically Engineered Machine **Insititute of Biophysics, CAS**

Guide: Prof. Jiangyun Wang

- (2022) FitYo: A Customized Meal Replacements Generator (Project | repo). A portable IoT machine to make meal replacement, an application for our machine & an entertaining science game and a convenient tool for creating wiki.
- (2021) Decaffi: Personalized Caffeine Intake Management Scheme Based on Synthetic Biology (Project | repo). An application Caffeine-monitor to assist users with obtaining a better handle on their caffeine intake amount and an online education platform iGEM EduHub

SELECTED AWARDS AND HONORS

National Scholarship (Awarded to 14 students in the whole school; ￥8000) 2023

SenseTime Scholarship, SenseTime **(**30 undergraduate students across the country; ￥20000) 2022

First Prize Academic Scholarship, UCAS (top 1% students; ￥6000) 2021 & 2022 & 2023

National Inspirational Scholarship (¥ 6000) 2021&2022

National Undergraduate Mathematical Contest in Modeling, *Second Prize* 2022

International Genetically Engineered Machine Competition, *Sliver (2021) & Gold (2022) Award*

Merit Student of Beijing, Beijing (Each year the whole school selects two) 2022

National University Robotics Competition League 3V3 Match, *Third Prize* (Project) 2022

Undergraduate Role Models, UCAS (2 out of 400 students) 2022

International Mathematical Contest In Modeling, *Honorable Mentioned* 2022

National 5-minute Scientific Research English Speech Contest, *Second Prize* 2022

Outstanding Volunteer, UCAS 2022

Peak Cup Robot Competition - Model Photoelectric Race, First Prize, Tsinghua University 2018

TEACHING EXPERIENCE

Teaching Instructor for *Python Language Learning for iGEM* Apr 2022 - Jul 2022

Peer Mentor, Academic planning guidance for underclassmen Sep 2022 - Sep 2023

Undergraduate academic tutor Sep 2022 - Present

Teaching Assistant for *Computer Graphics* Sep 2023 - Present

Support education teacher, science popularization for children of migrant workers Sep 2023 - Present

LEADERSHIP

- Minister of Cooperation Center of Student Union of UCAS (Aug 2022-Jul 2023)
- Deputy Minister of Outreach Department of Student Union of UCAS (Jun 2021-Jun 2022)
- Team vice captain and software team leader in UCAS iGEM team (Dec 20201 - Dec 2022)

ADDITIONAL SKILLS

Programming: C/C++, Python, Matlab, Latex, HTML, CSS, Javascript, VDHL

Tools: PyTorch, TensorFlow, OpenGL, Vim, Git, Docker, PyGame, Android Studio

Software: Premiere Pro, Adobe Photoshop, After Effects, Indesign, Illustrator, Origin, Blender, Vivado

Language: Native in Mandarin; fluent in English (C1/IELTS 7.5)