Heng Zhang

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Educational Background

Southeast University, School of Instrument Science and Engineering, Master, GPA(3.7/4.0) 2020.9 - 2023.7

Southeast University, School of Instrument Science and Engineering, Bachelor of Engineering, GPA(3.56/4.0) 2016.9 - 2020.7

Work Experience

The University of Hong Kong, Faculty of Dentistry, Research Assistant 2023.8 - 2024.8

- Designing 3D-printed clear aligners for patients requires significant effort from the doctor. This project aims to investigate an automated approach to creating effective aligners. My responsibilities include creating the FEM model of teeth, automating the simulation, developing an algorithm that generates aligners, and validating the effectiveness of the aligners.

Artificial Intelligence Research Innovation Academy, Internship 2019.10 - 2020.1

- The NIST Face Recognition Contest focuses on evaluating the performance of automated face recognition technologies across various civil, law enforcement, and homeland security applications. My responsibilities include collecting and processing facial data, converting the existing Python code to C++, and completing the submission program in accordance with the organizer's specifications.

Publications

1. **H. Zhang**, L. Zhu, J. Shen and A. Song, **"Implicit Neural Field Guidance for Teleoperated Robot-assisted Surgery,"** IEEE International Conference on Robotics and Automation (**ICRA**), London, United Kingdom, 2023, doi: 10.1109/ICRA48891.2023.10160475.
2. **H. Zhang**, L. Zhu, Y. Xiang, J. Zheng and A. Song, **"Haptic Rendering of Neural Radiance Fields,"** The ACM Symposium on User Interface Software and Technology (**UIST**), San Francisco, California USA, 2023, doi: 10.1145/3586183.3606811.
3. **H. Zhang**, L. Zhu, Q. Chen, A. Song and L. -F. Yu, **"Augmenting Conversations With Comic-Style Word Balloons,"** in IEEE Transactions on Human-Machine Systems (**THMS**), vol. 53, no. 2, pp. 367-377, April 2023, doi: 10.1109/THMS.2022.3224767.
4. **H. Zhang**, L. Zhu, **"Differentiable Collaborative Patches for Neural Scene Representations"** in IEEE Transactions on Emerging Topics in Computational Intelligence (**TETCI**), doi: 10.1109/TETCI.2024.3414952.
5. L. Zhu, X. Jiang, J. Shen, **H. Zhang**, Y. Mo and A. Song, **"TapeTouch: A Handheld Shape-changing Device for Haptic Display of Soft Objects,"** in IEEE Transactions on Visualization and Computer Graphics (**TVCG**), vol. 28, no. 11, pp. 3928-3938, Nov. 2022, doi: 10.1109/TVCG.2022.3203087.

Personal Statement

A passionate researcher with over three years of experience working both independently and within teams, I have a strong interest in Computer Graphics, Physics-based Simulations, and their practical applications.
As a proficient programmer with a passion for coding, I have extensive experience in multiple programming languages. My strong coding skills have contributed to the successful completion of numerous research and engineering projects. Additionally, I have rich experience with Motion Capture Systems, VR/AR glasses, robotic arms, and haptic devices.
Programming languages: Python, C++, CUDA, Rust. **OS:** Linux, macOS. **Softwares:** LaTeX, Abaqus, Blender.

References

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