

# Zhiyang (Frank) Dou

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**Bio.** I am a Ph.D. candidate in Computer Graphics and Computer Vision Group at the *University of Hong Kong*, supervised by *Prof. Wenping Wang* and *Prof. Taku Komura*. I received my B. Eng. degree with honors at *Shandong University*. My undergraduate research advisor is *Prof. Shiqing Xin*.

I am currently a visiting scholar in the Department of Computer and Information Science at the *University of Pennsylvania*.

**Research interests** : Character Animation, Geometric Modeling and Processing, Computer Graphics, Human Behavior Analysis.

## Education

Aug 2020 – Present      Ph.D. in Computer Graphics, Computer Science, *The University of Hong Kong*.

Sep 2016 – June 2020    B.Eng in Computer Science Honours, Computer Science (Elite Program), *Shandong University*.

## Research Work

### > Wonder3D : Single Image to 3D using Cross-Domain Diffusion

Xiaoxiao Long\*, Yuanchen Guo\*, Cheng Lin, Yuan Liu, **Zhiyang Dou**, Lingjie Liu, Yuexin Ma, Song-Hai Zhang, Marc Habermann, Christian Theobalt, Wenping Wang.

Arxiv 2023.

[Project Page][Paper][Code]

### > C-ASE : Learning Conditional Adversarial Skill Embeddings for Physics-based Characters

Zhiyang Dou, Xuelin Chen, Qingnan Fan, Taku Komura, Wenping Wang.

SIGGRAPH Asia 2023.

[Project Page][Paper][Video]

### > TORE : Token Reduction for Efficient Human Mesh Recovery with Transformer

Zhiyang Dou\*, Qingxuan Wu\*, Cheng Lin, Zeyu Cao, Qiangqiang Wu, Weilin Wan, Taku Komura, Wenping Wang.

IEEE International Conference on Computer Vision (ICCV) 2023.

[Project Page][Paper]

### > Globally Consistent Normal Orientation for Point Clouds by Regularizing the Winding-Number Field

Rui Xu, **Zhiyang Dou**, Ningna Wang, Shiqing Xin, Xiaohu Guo, Wenping Wang.

ACM Transactions on Graphics. SIGGRAPH 2023.

SIGGRAPH 2023 Best Paper Award.

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### > RFEPS : Reconstructing a Feature-line Equipped Polygonal Surface from Unoriented Point Cloud

Rui Xu, Zixiong Wang, **Zhiyang Dou**, Chen Zong, Shiqing Xin, Mingyan Jiang, Changhe Tu.

ACM Transactions on Graphics. SIGGRAPH Asia 2022.

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### > Coverage Axis : Inner Point Selection for 3D Shape Skeletonization

Zhiyang Dou, Cheng Lin, Rui Xu, Lei Yang, Shiqing Xin, Taku Komura, Wenping Wang.

Computer Graphics Forum. EUROGRAPHICS 2022.

Fast-Forward Attendees Award, 2nd Place.

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### > Popularization of High-Speed Railway Reduces the Infection Risk via Close Contact Route during Journey

Nan Zhang, Xiyue Liu, Shuyi Gao, Boni Su, **Zhiyang Dou** #.

Sustainable Cities and Society (SCS), IF=11.7, 2023. #Corresponding Author.

### > Student close contact behavior and COVID-19 transmission in China's classrooms

Yong Guo\*, **Zhiyang Dou**\*, Nan Zhang, Xiyue Liu, Boni Su, Yuguo Li, Yinping Zhang.

PNAS Nexus, 2023.

Featured in a press release by EurekAlert.

[Project Page][Paper][Press Release]

### > Close Contact Behaviors of University and School Students in 10 Typical Indoor Environments

Nan Zhang, Li Liu, **Zhiyang Dou**, Xiyue Liu, Xueze Yang, Yong Guo, Silan Gu, Yuguo Li, Hua Qian, Jianjian Wei.

Journal of Hazardous Materials (JHM), IF=14.2, 2023.

### > Real Close Contact Behavior-based COVID-19 Transmission and Interventions in Subway

Xiyue Liu\*, **Zhiyang Dou**\*, Lei Wang, Boni Su, Tianyi Jin, Yong Guo, Jianjian Wei, Nan Zhang.

Journal of Hazardous Materials (JHM), IF=14.2, 2022.

➤ **Top-Down Shape Abstraction Based on Greedy Pole Selection**

Zhiyang Dou, Shiqing Xin, Rui Xu, Jian Xu, Yuanfeng Zhou, Shuangmin Chen, Wenping Wang, Xiuyang Zhao, Changhe Tu.  
IEEE Transactions on Visualization and Computer Graphics (TVCG), 2021.

\*Equal contribution

## ☰ Research Experience

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- **Jul. 2023 - Nov. 2023** Research Intern, [Tencent Games](#).
- **Jun. 2023 - Jul. 2023** Visiting Scholar, [Beijing University of Technology \(BJUT\)](#).
- **Apr. 2022 - Jun. 2023** Research Intern, [Tencent AI Lab](#).
- **Jul. 2019 - Oct. 2019** Research Assistant, [The University of Hong Kong](#).
- **Mar. 2018 - Jun. 2019** Research Assistant (part-time), [Interdisciplinary Research Center \(IRC\)](#).

## 🔑 Scholarships

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- **Oct 2020** Postgraduate Scholarship.
- **Oct 2019** National Scholarship (0.2%).
- **Oct 2018** National Scholarship (0.2%).
- **Dec 2018** Presidential Scholarship (top 30 at the University).

## 📖 Patents & Competitions

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- **[Patent]** Method, Device and Process for Physics-based Motion Generation, 2023, Under Review.
- **[Patent]** Method, Device and Process for Hand-to-Surface Contact Detection, 2023, Under Review.
- **[Patent]** Method, Device and Process for Social Distancing, 2020, [Patent CN202110334126](#).
- **Meritorious Winner**, [International Mathematical Modeling Contest](#) : MCM, 2019.
- **Meritorious Winner**, [International Mathematical Modeling Contest](#) : ICM, 2018.
- **National First Prize (1%)**, [National Collegiate Mathematical Modeling Contest](#), 2019.
- **National First Prize, Best Paper (8/38573)**, [National Collegiate Mathematical Modeling Contest](#), 2018.

## ☰ Services

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- **Reviewer Services** : SIGGRAPH; SIGGRAPH ASIA; TVCG; TIP; ICCV; CVPR; GM, CAD (CADJ); CGI; ICONIP; FSDM; MLIS.
- **2023 - 2024** Teaching Assistant of COMP3271 Computer Graphics.
- **2022 - 2023** Teaching Assistant of COMP3362 Hands-on AI : Experimentation and Applications.
- **2021 - 2022** Teaching Assistant of COMP3362 Hands-on AI : Experimentation and Applications.
- **2020 - 2021** Teaching Assistant of COMP2120 Computer organization.
- **2021 - 2022** Junior Resident Tutor at [Graduate House](#).
- **2018 - 2019** Co-founder of Open Interest Lab (IPLab) at SDU (By 2022, we have more than 120 members).

## ☰ Student Mentorship Experience

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*(Sorted alphabetically by last name)*

- Jamie Zeyu Cao, University of Cambridge (B.A), University of Cambridge (MSC).
- Zexin Lin, The Chinese University of Hong Kong, Shenzhen (B.Eng).
- Xiyue Liu, Beijing University of Technology (B.Eng), Beijing University of Technology (M.Eng).
- Xueze Yang, Beijing University of Technology (B.Eng), Beijing University of Technology (M.Eng).
- Peter Qingxuan Wu, University of Oxford (B.A), University of Pennsylvania (MSC).
- Rui Xu, Shandong University (B.Eng), Shandong University (M.Eng).
- Zhengming Yu, South China University of Technology (B.Eng), Texas A&M University (Ph.D).
- Wenyang Zhou, University of Cambridge (B.A).