Chuanxia Zheng

Curriculum Vitae

Department of Data Science & AI
Monash University
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Education

2017–2021 **Nanyang Technological University**.
Ph.D. in Computer Science, SCSE
Thesis: *Synthesizing Photorealistic Images with Deep Generative Learning*
Advisor: Tat-Jen Cham and Jianfei Cai

2014–2017 **Beihang University**.
MA.E. in Automation Science
Thesis: *Context-based Indoor Scene Understanding for Mobile Robot*
Advisor: Jianhua Wang and Weihai Chen

2010–2014 **Beijing Jiaotong University**.
B.E. in Electronic and Information Engineering
Ranked 2nd out of 100, Class of 2014

Employment

2021–present **Monash University**.
Research Fellow at Monash Research Institute of Science and Technology
Research interests: 2D image geneation and 3D generation

2017 **Huawei Research**.
Research assistant at Noah's Ark Lab
Research interests: face recognition and generation

2016 **Tencent Research**.
Research Intern at Fundamental Research Center of Tencent
Work on news recommendation

Awards & Honors

2021 NTU Outstanding PhD Thesis Award (Nomination, waiting for defence)

2021 TMM Outstanding Reviewer Award

2017 NTU Research Scholarship

2015,2016 First Prize Scholarship for Excellent Student

2014 Outstanding Graduate of Beijing

2013 National Second Prize of the National Electronic Design Contest (**Best one in Beijing**)

2012 Hanergy Special Scholarship (**Top 1%**)

2011 Siemens Special Scholarship (**Top 1%**)

Research Experience

2021–present **VinAI**, *The first AI research Lab in Vietnam*, Vietnam, Prof. Hung Bui.
Cooperator with on high quality image generation and data compression

2021–present **Department of Data Science & AI**, *Monash University*, Australia, Prof. Jianfei cai.
Research interests: nature scene generation and completion,
one paper submitted to **CVPR**

2020–2021 **Mechanobiology Institue (MBI)**, *National University of Singapore*, Singapore, Prof. Lim Chwee Teck.
Cooperator on cell nuclear generation
one paper submitted to **Nature**

2017–2021 **Institute for Media Innovation (IMI)**, *Nanyang Technological University*, Singapore, Prof. Nadia Magnenat Thalmann.
Research interests: photorealistic image generation
seven papers accepted by **CVPR(2), ECCV(1), ICCV(1), SIGGRAPH(1) and IJCV(2)**

2014–2017 **Key Technologies for Context-based Infoor Scene Understadning in Mobile Robot**, *Beihang University*, China, Prof. Weihai Chen.
Research interests: secne understanding and segmentation

━━━━ Publications

[1] **Chuanxia Zheng**, Tat-Jen Cham, Jianfei Cai, and Dinh Phung. Bridging global context interactions for high-fidelity image completion. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition(**CVPR**)*, 2022.

[2] **Chuanxia Zheng**, Duy-Son Dao, Guoxian Song, Tat-Jen Cham, and Jianfei Cai. Visiting the invisible: layer-by-layer completed scene decomposition. *International Journal of Computer Vision (**IJCV**)*, 2021.

[3] Yujun Cai, Yiwei Wang, Yiheng Zhu, Tat-Jen Cham, Jianfei Cai, Junsong Yuan, Jun Liu, **Chuanxia Zheng**, Sijie Yan, Henghui Ding, Xiaohui Shen, Ding Liu, and Nadia Magnenat Thalmann. A unified 3d human motion synthesis model via conditional variational auto-encoder. In *Proceedings of the International Conference on Computer Vision(**ICCV**)*, 2021.

[4] **Chuanxia Zheng**, Tat-Jen Cham, and Jianfei Cai. Pluralistic free-form image completion. *International Journal of Computer Vision (**IJCV**)*, 2021.

[5] Guoxian Song, Linjie Luo, Jing Liu, Wan-Chun Ma, Chunpong Lai, **Chuanxia Zheng**, and Tat-Jen Cham. Agilegan: stylizing portraits by inversion-consistent transfer learning. *ACM Transactions on Graphics (**TOG**)*, 40(4):1–13, 2021.

[6] **Chuanxia Zheng**, Tat-Jen Cham, and Jianfei Cai. The spatially-correlative loss for various image translation tasks. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition(**CVPR**)*, pages 16407–16417, 2021.

[7] **Chuanxia Zheng**, Tat-Jen Cham, and Jianfei Cai. Pluralistic image completion. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, pages 1438–1447, 2019.

[8] Tianyi Zhang, Jingyi Yang, **Chuanxia Zheng**, Guosheng Lin, Jianfei Cai, and Alex C Kot. Task-in-all domain adaptation for semantic segmentation. In *2019 IEEE Visual Communications and Image Processing (**VCIP**)*, pages 1–4. IEEE, 2019.

[9] **Chuanxia Zheng**, Tat-Jen Cham, and Jianfei Cai. T2net: Synthetic-to-realistic translation for solving single-image depth estimation tasks. In *Proceedings of the European Conference on Computer Vision (**ECCV**)*, pages 767–783, 2018.

[10] **Chuanxia Zheng**, Jianhua Wang, Weihai Chen, and Xingming Wu. Multi-class indoor semantic segmentation with deep structured model. *The Visual Computer (**TVCJ**)*, 34(5):735–747, 2018.

[11] Jianhua Wang, **Chuanxia Zheng**, Weihai Chen, and Xingming Wu. Learning aggregated features and optimizing model for semantic labeling. *The Visual Computer (**TVCJ**)*, 33(12):1587–1600, 2017.

[12] **Chuanxia Zheng**, Jianhua Wang, Weihai Chen, and Xingming Wu. Semantic segmentation based on aggregated features and contextual information. In *2016 IEEE International Conference on Robotics and Biomimetics (**ROBIO**)*, pages 862–867. IEEE, 2016.

[13] Jianhua Wang, **Chuanxia Zheng**, Weihai Chen, and Xingming Wu. Learning contextual information for indoor semantic segmentation. In *2016 IEEE 11th Conference on Industrial Electronics and Applications (**ICIEA**)*, pages 1639–1644. IEEE, 2016.

━━━━ Preprints

[14] Qianyi Wu, Xian Liu, Yuedong Chen, Kejie Li, **Chuanxia Zheng**, Jianfei Cai, and Jianming Zheng. Object-compositional neural implicit surfaces. *Under reviewer.*

[15] Yuedong Chen, Qianyi Wu, **Chuanxia Zheng**, Tat-Jen Cham, and Jianfei Cai. Sem2nerf: Converting single-view semantic masks to neural radiance fields. *Under reviewer.*

[16] Yuzhu Ji, **Chuanxia Zheng**, and Tat-Jen Cham. One-shot human motion transfer via occlusion-robust flow prediction and neural texturing. *Under reviewer.*

[17] **Chuanxia Zheng**, Guoxian Song, Tat-Jen Cham, Jianfei Cai, Linjie Luo, and Dinh Phung. High-quality pluralistic image completion via code sharing. *Under reviewer.*

[18] Jyothsna Vasudevan*, **Chuanxia Zheng***, James G. Wan, Tat-Jen Cham, Lim Chwee Teck, and Javier G. Fernandez. Determination of nuclear position by the arrangement of actin filaments using deep generative networks. *Under reviewer of **Nature**.*

Academic Services

Journal Reviewer

TPAMI	IEEE Transactions on Pattern Analysis and Machine Intelligence
IJCV	International Journal of Computer Vision — Special Issue on Generative Adversarial Networks for Computer Vision
TIP	IEEE Transactions on Image Processing
TMM	IEEE Transactions on Multimedia (**Outstanding Reviewer Award, 2021**)
TCSVT	IEEE Transactions on Circuits and Systems for Video Technology
CVIU	Computer Vision and Image Understanding
TVCJ	The Visual Computer
NCAA	Neural Computing and Applications

Conference Reviewer

2022	CVPR, ECCV, ICLR, SIGGRAPH, IJCAI, ACM MM
2021	CVPR, ICCV, ICLR, ACM MM
2020	CVPR, ECCV
2019	ICCV

Talks

2022	**Synthesizing Photorealsitic Scenes**, Graphics & Geometric Computing Laboratory, USTC.
2019	**Pluralistic Image Completion**, *Institute of Media Innovation*, NTU.
2018	**Depth Estimation from Single 2D Image**, *Institute of Media Innovation*, NTU.

Teaching

2018–2020	**Teaching Assistant**, *Advanced Digital Image Processing*, Graduate, NTU.
2018–2020	**Teaching Assistant**, *Human-Computer Interaction*, Undergraduate, NTU.
2018–2019	**Teaching Assistant**, *Engineering Mathematics*, Undergraduate, NTU.