Zhijie **Wu**

Intern student · Deep Learning

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Education

Department of Computer Science, Sichuan University — *Chengdu, China*

B.S. in Computer Science and Engineering — *Aug. 2012 - July. 2016*

- GPA: 91/100. Ranking: 2/378. National Scholarship Award.

Research Project

Pair-wise Exchangeable Feature Extraction for Arbitrary Style Transfer — *Technical Report*

Zhijie Wu*, Chunjin Song*, Yang Zhou, Minglun Gong, Hui Huang

- We propose a novel end-to-end framework to extract exchangeable features to improve the performance of style-transfer task.
- A novel *whitening operation* is also developed to better combine the content and style features.
- Evaluated on the large-scale datasets, the proposed method outperforms other baselines with better visual details.

ETNet: Error Transition Network for Arbitrary Style Transfer — *Accepted by NeurIPS 2019*

Zhijie Wu*, Chunjin Song*, Yang Zhou, Minglun Gong, Hui Huang

- We introduce the concept of error-correction mechanism and error diffusion operation to arbitrary style transfer by evaluating errors in stylization results and correcting them iteratively.
- By explicitly computing the features for perceptual loss in a feed-forward network, each refinement is formulated as an error diffusion process.
- The overall style transfer framework can perform arbitrary style transfer and synthesize highly detailed results with favored styles.

Structure-aware Generative Network for 3D-Shape Modeling — *Accepted by ACM Siggraph 2019*

Zhijie Wu, XIANG WANG, DI LIN, DANI LISCHINSKI, DANIEL COHEN-OR, HUI HUANG

- We propose a new end-to-end generative framework by jointly considering the geometry and structure.
- The joint analysis strategy enables us to achieve shape completion and geometry-structure translation.
- Additionally, we come up with a new idea to evaluate the advantage of our model. By using some well-designed toy examples, we can demonstrate that our model can capture the dependency between geometry and structure better.

Working Experience

Visual Computing Center, Shenzhen University — *Shenzhen, China*

Research Assistant — *May. 2017 - PRESENT*

- Supervised by Hui Huang, in the area of 3D generative models and style transfer.
- We had one paper on 3D generative models accepted by Siggraph 2019 and another paper on arbitrary style transfer accepted by Neurips 2019.

Human computer interaction research center, SIAT — *Shenzhen, China*

Research Assistant — *Jan. 2017 - May. 2017*

- Follow the state-of-art research in the area of mesh texture smoothing, supervised by Jin Qing.
- Use the idea of Low-Rank to compute the correlation of patches from a mesh, then use the normals to smooth the vertex coordinates.

Software Group,DJ-Innovations — *Shenzhen, China*

Software Developer — *Dec. 2015 - Dec. 2016*

- Develop apps for mobile devices to control DJI's drones with Objective-C.
- Take part in the testing and deployment of DJI's new products.

Honors & Awards

2016 **Outstanding Final-Year Project**, Top 5% student in CS Department — *Chengdu, China*

2014 **National Scholarship**, Top 3% student in CS Department — *Chengdu, China*

2013 **2nd Scholarship Award**, Excellent student in CS Department — *Chengdu, China*

Skills

Programming Python, C/C++, Objective-C, PHP, HTML5, Javascript

Framework Tensorflow, Qt

Other tools LaTeX, Git