Dawei Yang

Computer Science and Engineering, University of Michigan
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EDUCATION

Ph.D. Program in Computer Science & Engineering 09/2015-Present
University of Michigan, Ann Arbor, MI, US

- Research Interest: Computer Vision, single image 3D reconstruction, inverse rendering

B.Eng. in Computer Science & Technology 07/2015
Tsinghua University, Beijing, P. R. China

PUBLICATIONS

MeshAdv: Adversarial Meshes for Visual Recognition
Dawei Yang*, Chaowei Xiao*, Bo Li, Jia Deng, Mingyan Liu
The IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019, Oral.

Shape from Shading through Shape Evolution
Dawei Yang, Jia Deng
The IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018, Spotlight.

Decorrelated Batch Normalization
Lei Huang, Dawei Yang, Bo Lang, Jia Deng
The IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018.

Single-Image Depth Perception in the Wild
Weifeng Chen, Zhao Fu, Dawei Yang, Jia Deng.
Neural Information Processing Systems (NeurIPS), 2016.

RESEARCH EXPERIENCE

- Program committee member of Security and Privacy of Machine Learning workshop (ICML 2019)
- Reviewer of NeuRIPS 2019
- Reviewer of ICCV 2019
- Reviewer of CVPR 2019

Visiting Graduate Student, Princeton University 09/2018-Present

- Visiting at Princeton Vision & Learning Lab
- Advised by Prof. Jia Deng

Graduate Student Research Assistant, University of Michigan 09/2015-Present

- Advised by Prof. Jia Deng
- Co-advised by Prof. David Fouhey

Student Research Training, Tsinghua University 09/2012-07/2015

- Graphics & Geometric Computing Group
- Advised by Prof. Kun Xu and Prof. Shi-Min Hu

AWARDS

Tung OOCL Scholarship	12/2014
ST Engineering China Scholarship	03/2014
Tung OOCL Scholarship	12/2013
ST Engineering China Scholarship	03/2013
29th Chinese Physics Competition for College Students First Prize	12/2012
National Encouragement Scholarship	12/2012
26th Chinese Physics Olympiad Regional First Prize	10/2010

Projects:

Bachelor Thesis: A Hierarchical Point Cloud Rendering Algorithm

- We proposed a rendering algorithm to allow real-time 3D roaming in scenes represented by TB-level point cloud data. We balanced the memory use, the rendering frame rate and object rendering quality by introducing tree-structured level-of-detail relief textures and a two-pass rendering algorithm.

Upsampling Regression Filter

- A neural network is learned to replace the core function of Joint Bilateral Upsampling to generalize the upsampling filters.

Bidirectional Texture Function Compression

- We exploited neural networks and CBM autoenconders to compress the 6D bidirectional texture function.

A precomputed dynamic real-time global illumination rendering algorithm

- We proposed a precomputed real-time global illumination rendering algorithm that enables relative motion among objects in the scene. We used binary trees of small neural networks to simulate the radiance transfer from one object to a certain surface patch to effectively compute the 1-bounce indirect light.

OTHER EXPERIENCE

Teaching Assistant at Tsinghua University 08/2014-12/2014

- Software Engineering by Prof. Xiaoying Bai
- Implemented the online judge system with other TAs for student assignments.
- Advised student group projects.

Internship at Tencent 07/2014

Project: Android OCR tool for programming code recognition

- We proposed a framework for OCR of programming codes in textbooks based on an open source library *Tesseract*. We improved the overall accuracy by applying the Sauvola algorithm for image binarization and naive Bayes classifier for separating code blocks and text blocks in the scanned characters.
- We delivered the project and applied for a Tencent patent.

PROFESSIONAL SKILLS

Programming Languages: C/C++, Java, Python, MATLAB, VHDL, Assembly.

Tools: Torch/PyTorch, Tensorflow, OpenGL, CUDA