# Yifang Men

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## EXPERIENCE

- (09/2017 – 07/2020) **Master** Candidate in Computer Science from the Institute of Computer Science and Technology, Peking University.                                        GPA: 92.3/100   Rank: 1/28
- (09/2013 - 06/2017) **Bachelor's** Degree in Computer Science and Technology from Computer School, Wuhan University.                                        GPA: 93.4/100   Rank 1/202

## RESEARCH INTERESETS

- Image Synthesis (Conventional and Deep Generative Models)
- Style Transfer and Deep Learning
- Intelligent Visual Design

## PUBLICATION

- **Yifang Men**, Zhouhui Lian, Yingmin Tang, Jianguo Xiao. "DynTypo: Example-based Dynamic Text Effects Transfer." Accepted by *IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), Long Beach, USA, Jun. 2019.

- **Yifang Men**, Zhouhui Lian, Yingmin Tang, Jianguo Xiao. "A Common Framework for Interactive Texture Transfer." Accepted by *IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), Salt Lake City, USA, Jun. 2018. (**Spotlight, Top 7% Papers**)

- **Yifang Men**, Zhouhui Lian, Yingmin Tang, Jianguo Xiao. "Fast Neural Texture Transfer from a Single Image" In Submission to *IEEE International Conference on Computer Vision* (**ICCV**), *Seoul, Korea*, Oct. 2019.

- Haojun Ai, **Yifang Men\***, Liangliang Han, Zuchao Li, Mengyun Liu. "High precision gesture sensing via quantitative characterization of the Doppler effect", Accepted by *IEEE International Conference on Pattern Recognition* (**ICPR**), Cancun, Mexico, Dec. 2016. (first student author and corresponding author\*)

## RESEARCH PROJECTS

**A Common Framework for Interactive Texture Transfer**                                        Mar. 2017 – Jun. 2017

- Implemented a user-controlled image synthesis framework for multiple tasks, including turning doodles into artwork, editing decorative patterns, generating texts in special effect as well as controlling effect distribution in text images, and swapping textures.
- Introduced a salient structure guide with the saliency detection and structure propagation to achieve content-aware synthesis.
- Improved Patchmatch (a classic non-parametric texture synthesis) algorithm with extended nearest neighbor space and matrix operations to provide richer source patches without speed reduction

(This work produced state-of-the-art results and was accepted by CVPR 2018 as spotlight presentation. Project pages: https://menyifang.github.io/projects/CFITT/CFITT.html)

**DynTypo: Example-based Dynamic Text Effects Transfer**                                        Mar. 2018 – Jun. 2018

- The first method to achieve the automatic generation of dynamic typography with sophisticated dynamic effects, such as burning flame, flowing water and billowing smoke.
- Based on non-parametric texture synthesis method, tackled the challenge of eliminating temporal artifacts and preserving spatial continuity.
- Developed a guided nearest neighbor field search algorithm by integrating the idea of Simulated Annealing and distance-based weight map to achieve deep texture propagation.

(This work raised a brand-new sub-topic of style and resolved it with impressive results. Related paper was accepted by CVPR 2019.  Project pages: https://menyifang.github.io/projects/DynTypo/DynTypo.html)

**Structure-aware Fast Neural Texture Transfer from a Single Image**          Nov. 2018 – Mar. 2019

- Implemented fast semantic image synthesis using neural networks with only a single exemplar provided, which can be widely applicable for multi-tasks, including text effects transfer, online stylized brush, turning doodles-to-artworks and example-based image colorization and stylization.
- tackled the challenge of preserving salient structure from the exemplar to target images with saliency detection for structure prediction and CNN-based geometric matcher for structure propagation.
- introduced an adaptive patch sampling strategy for patch-wise learning and a local discriminator with attention mechanism to enhance low-level details.

(This work produced high-quality results for semantic image synthesis in real time, more practical with only a single exemplar pair provided. It was submitted to ICCV and an online application is coming soon.)

## PATENTS

- A Texture Transfer Method based on Structure Guidance. Chinese Patent, 201810224267.7.

  Author: Zhouhui Lian, **Yifang Men**, Yingmin Tang, Jianguo Xiao.
- An Automatic Generation Method of Dynamic Typography with Exemplar. Chinese Patent, 201810796815.3.

  Author: Zhouhui Lian, **Yifang Men**, Yingmin Tang, Jianguo Xiao.
- A Gesture Recognition Method Based on Audio Doppler Feature Quantization, Chinese Patent, CN107526437A.

  Author: Haojun Ai, Yifeng Wang, **Yifang Men**, Hao Fei, Zheng Li.
- Human-computer Interaction System Based on Ultrasonic Doppler Effect (software copyright), Registration number, 2016SR218485.

  Author: Haojun Ai, **Yifang Men**.
- Gesture Training and Evaluation System Based on Hidden Markov Model (software copyright), Registration number, 2016SR218488

  Author: Haojun Ai, **Yifang Men**.

## SELECTED AWARDS

- Huawei Scholarship, Peking University, 2018
- Outstanding Graduates of Wuhan University, 2017
- Meritorious Winner of Interdisciplinary Contest in Modeling (ICM), Global, 2016
- Second Prize of Asia and Pacific Mathematical Contest in Modeling, China, 2015
- First Prize in the IBM Cup Web Page Design Competition, 2014
- National Scholarship for Undergraduate, 2014