

# Zhimin Fan

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## Education

- B.S. in Computer Science and Engineering** 2019.9-2023.6  
Southeast University, China (GPA: 3.98/4.00, Avg: 93.25/100)
- M.S. in Computer Science and Technology** 2023.9-2026.6  
Nanjing University, China

## Publications

### Specular Polynomials

Zhimin Fan, Jie Guo, Yiming Wang, Tianyu Xiao, Hao Zhang, Chenxi Zhou, Zhenyu Chen, Pengpei Hong, Yanwen Guo, Ling-Qi Yan

*ACM Transactions on Graphics (Proceedings of SIGGRAPH 2024)*

A polynomial formulation of specular constraints (multivariate & bivariate), converted into univariate polynomials using resultants, then efficiently solved

### Conditional Mixture Path Guiding for Differentiable Rendering

Zhimin Fan, Pengcheng Shi, Mufan Guo, Ruoyu Fu, Yanwen Guo, Jie Guo

*ACM Transactions on Graphics (Proceedings of SIGGRAPH 2024)*

Importance sampling light path derivatives using a deterministic mixture of primal and differential distributions, with the optimal mixture weight conditioned on the BSDF of each vertex in the path prefix

### Manifold Path Guiding for Importance Sampling Specular Chains

Zhimin Fan, Pengpei Hong, Jie Guo, Changqing Zou, Yanwen Guo, and Ling-Qi Yan

*ACM Transactions on Graphics (Proceedings of SIGGRAPH ASIA 2023)*

Importance sampling specular chains with seed placement using continuous probability distributions reconstructed from historical samples

## Awards

- President Scholarship**, Southeast University 2021.12
- National Scholarship** (1%), Southeast University 2020.12
- Gold Medal at ACM-ICPC Asia Regional Contest** 2020.11
- Tingbiao Jiao Scholarship, Southeast University 2020.5
- Provincial First Prize at Chinese Physics Olympiad 2018.9
- Provincial First Prize at National Olympiad in Informatics in Provinces 2016.11, 2017.11

## Services

**Technical paper reviewer:** SIGGRAPH Asia (2024), TVCG (2024), EG (2025)