Kangfu Mei

CONTACT

3400 North Charles Street
Baltimore, MD 21218
United States

Tel: (+1) 443-240-5261
Email: mikumkf@gmail.com
Website: kfmei.page

CURRENT

- Johns Hopkins University — Baltimore, MD, USA 21218
  Dept. Electrical and Computer Engineering
  Ph.D. Student started 2021 Fall — Expected Graduation in Early 2025
  Advisor: Prof. Vishal M. Patel

INTERESTS

- Image & Video Generation with Diffusion Models
- Low-Level Vision and Computational Photography
- Multimodal Large Language Models and Applications

EXPERIENCE

- Google Research, Computational Imaging Team (Luma) — Mountain View, CA
  Research Intern — 05/2024 - Present
  **Reference: Mauricio Delbracio (Staff Research Scientist)*
- Google Research, Computational Imaging Team (Luma) — Mountain View, CA
  Student Researcher — 05/2023 - 04/2024
  **Reference: Peyman Milanfar (Distinguish Research Scientist)*
- Adobe Research, Research Engineering and Design Lab (RED) — San Jose, CA
  Research Intern — 05/2022 - 11/2022
- Alibaba-Group, DAMO Academy — Shenzhen, China
  Research Intern — 06/2020 - 11/2020
- Kwai Technology — Beijing, China
  Imaging Algorithm Engineer Intern — 07/2018 - 05/2019

EDUCATION

- The Chinese University of Hong Kong — Shenzhen, China
  M.Phil. School of Science and Engineering — 09/2019 - 06/2021
- Jiangxi Normal University — Nanchang, China
  B.Eng. School of Computer Science and Engineering — 09/2015 - 06/2019

PUBLICATIONS

Google Scholar Profile (June 2024) Citations: 1526 H-Index: 12
i10-Index: 12 https://kfmei.page/gscholar

PREPRINT / UNDER-REVIEW PAPERS:

[arXiv]

[X01] Kangfu Mei, Zhengzhong Tu, Mauricio Delbracio, Hossein Talebi, Vishal M. Patel, Peyman Milanfar. *"Bigger is not Always Better: Scaling Properties of Latent Diffusion Models"* 2024, CVPR24 EDGE Workshop (Short version) && Under Reivew.

[arXiv] [X02] Kangfu Mei, Mo Zhou, Vishal M. Patel. *"sDFT: Scaling Diffusion Field Transformers on Images, Videos, and 3D Data"* 2024, Under Reivew.

JOURNAL ARTICLES: (1 JSTSP, 1 TCSVT)

[PDF] [arXiv] [J01] Kangfu Mei, Vishal M. Patel. *"Ltt-gan: Looking through turbulence by inverting gans"* IEEE Journal of Selected Topics in Signal Processing (JSTSP), 2023.

[PDF] [arXiv] [J02] Juncheng Li, Faming Fang, Jiaqian Li, Kangfu Mei, Guixu Zhang. *"MDCN: Multi-scale Dense Cross Network for Image Super-Resolution"* IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2020.

CONFERENCE PAPERS: (1 CVPR, 2 ECCV, 2 AAAI, 2 WACV, 1 ACCV)

[PDF] [arXiv] [Github] [C01] Kangfu Mei, Mauricio Delbracio, Hossein Talebi, Zhengzhong Tu, Vishal M Patel, Peyman Milanfar. *"CoDi: Conditional Diffusion Distillation for Higher-Fidelity and Faster Image Generation"* IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024.

[PDF] [arXiv] [Github] [C02] Kangfu Mei, Luis Figueroa, Zhe Lin, Zhihong Ding, Scott Cohen, Vishal M. Patel. *"Latent Feature-Guided Diffusion Models for Shadow Removal"* IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2024.

[PDF] [arXiv] [Github] [C03] Kangfu Mei, Vishal M Patel. *"VIDM: Video Implicit Diffusion Models"* AAAI Conference on Artificial Intelligence (AAAI), Oral, 2023.

[PDF] [arXiv] [Github] [C04] Nithin Gopalakrishnan Nair, Kangfu Mei, Vishal M Patel. *"AT-DDPM: Restoring Faces degraded by Atmospheric Turbulence using Denoising Diffusion Probabilistic Models"* IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2023.

[PDF] [arXiv] [Github] [C05] Kangfu Mei, Vishal M Patel, Rui Huang. *"Deep Semantic Statistics Matching (D2SM) Denoising Network "* European Conference on Computer Vision (ECCV), 2022.

[PDF] [arXiv] [Github] [C06] Kangfu Mei, Shenglong Ye, Rui Huang. *"SDAN: Squared Deformable Alignment Network for Learning Misaligned Optical Zoom"* IEEE International Conference on Multimedia and Expo (ICME), 2021.

[PDF] [arXiv] [Github] [C07] Qi Song, Kangfu Mei, Rui Huang. *"AttaNet: Attention-augmented network for fast and accurate scene parsing"* AAAI conference on artificial intelligence (AAAI), 2021.

[PDF] [Github] [C08] Juncheng Li, Yiting Yuan, Kangfu Mei, Faming Fang. *"Lightweight and Accurate Recursive Fractal Network for Image Super-Resolution"* IEEE/CVF International Conference on Computer Vision Workshop (ICCVW), 2019.

[PDF] [C09] Kangfu Mei, Juncheng Li, Jiajie Zhang, Haoyu Wu, Jie Li, Rui Huang. *"Higher-resolution network for image demosaicing and enhancing"* IEEE/CVF International Conference on Computer Vision Workshop (ICCVW), 2019.

[PDF] [Github] [C010] Juncheng Li, Faming Fang, Kangfu Mei, Guixu Zhang. *"Multi-scale Residual Network for Image Super-Resolution"* European Conference on Computer Vision

(ECCV), 2018.

[PDF] [Github] [C011] Kangfu Mei, Aiwen Jiang, Juncheng Li, Mingwen Wang. *"Progressive feature fusion network for realistic image dehazing"* Asian Conference on Computer Vision (ACCV), 2018.

ACTIVITIES

- Reviewer of International Conferences
  - IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2020 – 2024
  - International Conf. on Computer Vision (ICCV) 2021 – 2023
  - European Conf. on Computer Vision (ECCV) 2020 – 2024
  - AAAI Conf. on Artificial Intelligence (AAAI) 2021 – 2022
  - Winter Conf. on Applications of Computer Vision (WACV) 2021 – 2024
  - Asian Conf. on Computer vision (ACCV) 2018 – 2024
- Reviewer of International Journals
  - IEEE Trans. on Neural Networks and Learning Systems (TNNLS) 2022
  - IEEE Trans. on Circuits and Systems for Video Technology (TCSVT) 2022
  - IEEE Trans. on Image Processing (TIP) 2022
  - IEEE Trans. on Multimedia (TMM) 2023
  - International Journal of Computer Vision (IJCV) 2023 – 2024
  - Computer Vision and Image Understanding (CVEU) 2021 – 2022

PRESENTATIONS

Deep Generative Models and Computational Photography, Luma Seminar, Google. (Jun 2023)

Conditional Diffusion Distillation for Higher-Fidelity and Faster Image Generation, CCI CVPR Share-a-thon, Google. (Dec 2023)

Video Implicit Diffusion Models, AAAI23 Pre-presentation, AI TIME. (Jan 2023)

HONORS

- First place, Advances in Image Manipulation Challenges (RAW2RGB) in ICCV 2019
- 6-th, New Trends in Image Restoration and Enhancement (Dehazing) in CVPR 2018