Zhaowei Gao

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Personal Homepage
GitHub Profile
LinkedIn Profile

Education

•ETH Zürich *Zürich, Switzerland*
Msc in Electrical Engineering and Information Technology 2019-2023
– Research Interest: Computer Vision, Image and Video Processing, Human-Computer Interaction
– Courses: Machine Learning, Deep Learning, Probabilistic Artificial Intelligence, Virtual Reality

•Karlsruhe Institute of Technology *Karlsruhe, Germany*
Bsc in Electrical Engineering and Information Technology, GPA: 1.9/1.0, Top 10% 2016-2019

Experience

•Disney Research Studio *02/2023 - 08/2023*
Master Thesis Supervised by Dr. Yang Zhang and Prof. Markus Gross Zürich, Switzerland
– Designed a deep network for Image & Video Restoration
  • Based on Swin-Transformer and Deformable Convolution
  • Swin-Transformer: Optical Flow, Deformable Convolution: Frame Alignment
  • Unet-like structure: Basic Block :flow-guide DCN and Nonlinear Activation Free Network
– In the video Deinterlacing Task : Achive SOTA results on the Vimeo90K Testset
  • PSNR 46.285 DB / SSIM 0.993 improved by 1.8 DB
  • Networks with different parameter sizes: lightweight network (0.5M) on Vimeo90K Testset shows approximately 1 dB(PSNR) lower compared to the large model (25M)
– Show Generalization on Video Deblurring Task: PSNR 32.15 DB (GoPro Testset)

•ETH Zürich [Repository] *10/2022 - 02/2023*
Research Assistant in Landscape Architecture Group Zürich, Switzerland
– Developed and created an AR application based on Unity, C#, and the Hololens 2
– The application enables users to interact with real-world architectural scenes in augmented reality
– Accurately locates, displays, and records the spatial points needed by architects

•Shanghai Automation Instrument Co..LTD. *05/2018 - 08/2018*
Product Intern Shanghai, China
– Assembly of the electric actuator
– Using actuator management software

Projects

•Disney Research Studio [Report] *06/2022 - 10/2022*
Semester Project Supervised by Dr. Yang Zhang and Prof. Markus Gross Zürich, Switzerland
– Investigated a novel method to generate realistic noisy images
– Combine physics-based statistical methods with GAN-based training Network
– Designed and trained a Network (PyTorch framework, SIDD dataset) to generate synthetic noisy images
– The synthetic noisy images could be used for further denoising tasks
– Solved the challenging issue of collecting paired real noise-free and noisy image data

Technical Skills and Interests

Languages:English (fluent), German (fluent), Chinese (native)
Technical: Python (PyTorch), C#/C++, Matlab, Linux, Git, LaTex