# Zhaowei Gao

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Personal Homepage
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## Education

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

**•Karlsruhe Institute of Technology** *2016-2019*
***Bsc in Electrical Engineering and Information Technology****, GPA: 1.9/1.0, Top 15%* Karlsruhe, Germany

## Experience

**•Disney Research Studio** *02/2023 - 08/2023*
***Master Thesis*** *Supervised by Dr.Yang Zhang and Prof.Markus Gross* Zürich, Switzerland
– Paper submission to Conference and US Patent under review
– Designed a deep network for Image & Video Restoration(Deinterlacing)
- Incorporates a mechanism for the propagation of temporal information in both image and latent space,
- Propose a Flow-guided Refinement Block (FRB): flow-guided deformable convolution alignment.
- Leveraging bidirectional parallel propagation at multiple scale.
- Our model is lightweight and capable of simultaneously outputting six deinterlaced video frames.
- This makes it a promising candidate for real-time deinterlacing applications.
- Training the model at two distinct parameter levels.(namely 0.5M and 9M).
- Our extensive experimental results demonstrate that our proposed method achieve state-of-the-art performance on 4 various dataset. PSNR/SSIM improved by averagely 0.5DB/0.005.

**•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 enabled 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
– Combined 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

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