




Param Hanji

Computer Vision | Computer Graphics

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EXPERIENCE

APPLE | MACHINE LEARNING ENGINEER @ CAMERA ALGORITHMS
Dec 2023 – Current | Cambridge, UK

- Working to improve face rendering across devices for Apple's diverse user base

UNIVERSITY OF CAMBRIDGE | POSTDOC WITH **Cengiz Öztireli**
Oct 2022 – Nov 2023 | Cambridge, UK

- Projects on pointcloud generation [3], view synthesis [5], neural optimization [6]
- Helped design and deliver the MPhil. course on **Machine Visual Perception**.

META REALITY LABS | PART-TIME CONTRACT WITH **Alex Chapiro**
July 2022 – May 2023 | Remote

- Implemented a flexible tool to calibrate metric parameters on new datasets
- Worked on a new, improved SOTA video quality metric, **ColorVideoVDP** [4]

HUAWEI RESEARCH CENTRE | PART-TIME WITH HU CHEN
Sept 2020 – Jan 2021

- Studied effect of transfer functions for CV applications under extreme lighting
- Published a journal paper [9]; successfully submitted a patent with collaborators

UNIVERSITY OF CAMBRIDGE | RESEARCH ASSISTANT WITH **Rafał Mantiuk**
Feb 2019 – Sept 2022 | Cambridge, UK

- Developed statistical estimators and deep generative models for HDR imaging
- Helped build a capture-render-display system to pass the "Visual Turing Test" [8]
- Extensive perceptual evaluations of single-image HDR and neural view synthesis

SELECTED PUBLICATIONS

- Suchong; Fu, Y.; Yang, J.; **Hanji, P.**; Zhong, F. "CF-GISS: Collision-Free Generative 3D Indoor Scene Synthesis". Under review at ICLR (2024).
- [\[pdf\]](#) Bikov, K.; Su, S.; Choudhury, D.; & 4 others; **Hanji, P.**; Öztireli, C. "Fitness Aware Human Motion Generation". FITML Workshop, NeurIPS (2024).
- [\[arxiv\]](#) Zhou, C.; Zhong, F.; **Hanji, P.**; & 5 others; Öztireli, C. "FrePolad: Frequency-Rectified Latent Diffusion for Point Cloud Generation". ICCV (2024).
- [\[link\]](#) Mantiuk, R.; **Hanji, P.**; Asano, Y.; & Chapiro, A. "ColorVideoVDP: metric for image, video and display distortions". Siggraph (2024).
- [\[link\]](#) Liang, H.; Wu, W.; **Hanji, P.**; Banterle, F.; Gao, H.; Mantiuk, R.; Öztireli, C. "Perceptual Quality Assessment of NeRF Methods". Eurographics (2024).
- [\[link\]](#) Zhong, F.; **Hanji, P.**; & 6 others; Öztireli, C. "Neural Fields with Hard Constraints of Arbitrary Differential Order". NeurIPS (2023).
- [\[link\]](#) **Hanji, P.**; Mantiuk, R.; Eilertsen, G.; Hajisharif, S.; Unger, J. "Comparison of single image HDR—caveats of quality assessment". Siggraph Conference (2022).
- [\[link\]](#) Zhong, F.; Jindal, A.; Yöntem, Ö.; **Hanji, P.**; Watt, S.; Mantiuk, R. "Reproducing Reality with HDR-MFS Display". Siggraph Asia (2021).
- [\[link\]](#) **Hanji, P.**; Alam, M. Z.; Giuliani, N.; Chen, H.; Mantiuk, R. "HDR Dataset with Adversarial Illumination for Computer Vision methods". JIST and LIM (2021).
- [\[link\]](#) **Hanji, P.**; Zhong, F.; Mantiuk, R. "Noise-Aware Merging of HDR Image Stacks without Camera Calibration". AIM Workshop, ECCV (2020).

SOFTWARE

PROGRAMMING AND ENV
Python • C/C++ • Bash • L^AT_EX •
PyTorch • COLMAP • SLURM

PUBLIC REPOSITORIES
CNF • **ColorVideoVDP** •
FovVideoVDP • **HDRutils** •
pfstools • **SimMobility** •
TSeriesMMA • **CUDA-CNN**

EDUCATION

UNIVERSITY OF CAMBRIDGE
PHD IN COMPUTER SCIENCE
Oct 2019 - Sept 2022 | Cambridge, UK
[\[thesis\]](#) Statistical estimation for inverse HDR imaging
Supervisor: Rafał Mantiuk
Funded by ERC Grant Horizon 2020

NATIONAL INSTITUTE OF TECHNOLOGY, KARNATAKA
B.TECH. IN INFORMATION TECHNOLOGY
Aug 2014 - June 2018 | Surathkal, India

AWARDS

- WISEMAN PRIZE, 2023 [\[link\]](#)
- WACV HDR-VIQM, 2023
(1ST PLACE) [\[link\]](#)
- ACM SIGGRAPH CVMP, 2022
(BEST PAPER) [\[link\]](#)
- HUAWEI ENTER METAVERSE, 2022
(2ND PLACE) [\[link\]](#)
- ERC PHD STUDENTSHIP [\[link\]](#)
- SAMSUNG VR APPATHON, 2015
(1ST PLACE)
- CBSE CERTIFICATE OF MERIT, 2012

PROJECTS SUPERVISED

- FITNESS-AWARE DIFFUSION FOR HUMAN MOTION GENERATION
- TEXT-CONDITIONED POINTCLOUD GENERATION WITH DIFFUSION
- DIFFUSION FOR IMAGE-INPAINTING
- IMAGE RESCALING BY PROBABILISTIC DISENTANGLEMENT
- MULTI-MONITOR GAZE-TRACKING
- SEGMENTATION BY DEPTH AND COLOUR