


# Param Hanji

Computer Vision | Computer Graphics

 paramhanji.github.io  paramhanji  param.hanji@gmail.com

## EXPERIENCE

**UNIVERSITY OF CAMBRIDGE** | POSTDOC WITH **Cengiz Öztireli**

Oct 2022 – Current | Cambridge, UK

- Ongoing projects on image and 3D generative modeling with diffusion models
- Performed an extensive perceptual evaluation of neural view synthesis methods
- Helped design and deliver the MPhil. course on **Machine Visual Perception**.

**UNIVERSITY OF CAMBRIDGE** | RESEARCH ASSISTANT WITH **Rafał Mantiuk**

Feb 2019 – Sept 2022 | Cambridge, UK

- Developed statistical estimators and generative models for inverse HDR imaging
- Helped build a capture-render-display system to pass the “Visual Turing Test”
- Built tools for comprehensive quantitative image and video quality assessment

**META REALITY LABS** | PART-TIME WITH **Alex Chapiro**

July 2022 – May 2023

- Worked on a PyTorch translation of **FovVideoVDP**, a popular video metric
- Implemented a flexible tool to calibrate metric parameters on new datasets
- Developed an improved SOTA video quality metric, **ColorVideoVDP**

**HUAWEI RESEARCH CENTRE** | PART-TIME WITH HU CHEN

Sept 2020 – Jan 2021

- Studied the effect of tone-curves (encoding functions) for Computer Vision
- Tested the robustness of CV methods to adversarial illuminations
- Published a journal paper; successfully submitted a patent with collaborators

## SELECTED PUBLICATIONS

1. [\[link\]](#) Zhong, F., **Hanji, P.** [& 7 others] “Neural Fields with Hard Constraints of Arbitrary Differential Order”. Under review at NeurIPS (2023).
2. [\[link\]](#) Mantiuk, R., **Hanji, P.**, Asano, Y., & Chapiro, A. “ColorVideoVDP: metric for image, video and display distortions”. Under review at Siggraph Asia (2023).
3. [\[link\]](#) Liang, H., Wu, W., **Hanji, P.**, Banterle, F., Gao, H., Mantiuk, R., Öztireli, C. “Perceptual Quality Assessment of NeRF Methods”. Under review at ICCV (2023).
4. [\[link\]](#) Mustafa, A., **Hanji, P.**, & Mantiuk, R. “Distilling Style from Image Pairs for Global Forward and Inverse Tone Mapping”. Siggraph CVMP (2022).
5. [\[link\]](#) **Hanji, P.**, Mantiuk, R., Eilertsen, G., Hajisharif, S., & Unger, J. “Comparison of single image HDR—caveats of quality assessment”. Siggraph Conference (2022).
6. [\[link\]](#) Zhong, F., Jindal, A., Yöntem, Ö., **Hanji, P.**, Watt, S., & Mantiuk, R. “Reproducing Reality with HDR-MFS Display”. Siggraph Asia (2021).
7. [\[link\]](#) **Hanji, P.**, Zhong, F., & Mantiuk, R. “Noise-Aware Merging of HDR Image Stacks without Camera Calibration”. AIM Workshop, ECCV (2020).

## COMPETITIONS AND AWARDS

- **1st place**: WACV HDR Video Quality Measurement, 2023 [\[link\]](#) • [\[paper\]](#)
- **Best paper**: ACM Siggraph CVMP (full paper award), 2022 [\[link\]](#)
- **PhD studentship**: ERC “Horizon 2020” Grant, Project “EyeCode” [\[link\]](#)
- **1st place**: Samsung VR Appathon, NITK, 2015
- CBSE Certificate of Merit for Outstanding performance, 2012

## SOFTWARE

**PROGRAMMING**

Python • C++ • Bash • L<sup>A</sup>T<sub>E</sub>X

**LIBRARIES/TOOLS**

PyTorch • CUDA • OpenCV • COLMAP • SLURM • Weights & Biases • Git • Docker

**PUBLIC REPOSITORIES**

**FovVideoVDP** • **HDRutils** • **pfstools** • **SimMobility** • **TSeriesMMA** • **CUDA-CNN**

## EDUCATION

**UNIVERSITY OF CAMBRIDGE**

PHD IN COMPUTER SCIENCE

Oct 2019 - Present | Cambridge, UK

Statistical estimation for inverse HDR imaging

Supervisor: Rafał Mantiuk

**NATIONAL INSTITUTE OF TECHNOLOGY, KARNATAKA**

B.TECH. IN INFORMATION TECHNOLOGY

Aug 2014 - June 2018 | Surathkal, India

GPA: 8.13 / 10.0

## TEACHING

**PROJECTS SUPERVISED**

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

**SUPERVISIONS AND TICKING**

- MACHINE VISUAL PERCEPTION
- INTRODUCTION TO PROBABILITY
- ALGORITHMS
- ML AND BAYESIAN INFERENCE
- PROGRAMMING IN C AND C++
- ADVANCED GRAPHICS AND IMAGE PROCESSING
- FURTHER GRAPHICS
- INTRODUCTION TO GRAPHICS