




Param Hanji

Computer Vision | Computational Photography

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EXPERIENCE

DEPT OF COMPUTER SCIENCE, UNIVERSITY OF CAMBRIDGE | RESEARCH ASSISTANT

Feb 2019 – Current | Cambridge, UK

- Developing statistical estimators and generative models for inverse HDR imaging
- Worked on optical flow, differentiable rendering, neural view synthesis
- Helping build a capture-render-display system to pass the “Visual Turing Test”

HUAWEI RESEARCH CENTRE | INTERSHIP

Sept 2020 – Jan 2021 | Munich, Germany (remote due to COVID-19)

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

COMPUTING, NATIONAL UNIVERSITY OF SINGAPORE | RESEARCH ASSISTANT

July 2018 – Jan 2019 | Singapore-MIT Alliance for R&D, Singapore

- Instrumental in the first public release of **SimMobility**, a massively parallel agent-based framework to simulate traffic in Boston and Singapore
- Worked on graph optimization problems in the space of urban mobility

SAMSUNG RESEARCH INSTITUTE | INTERSHIP

May – July 2017 | Bangalore, India

- Won a university Augmented Reality Hackathon and was invited to intern
- Proposed dynamic fixed-point arithmetic with quantized neural networks; achieved 4x reduction in size and 2x speedup for AlexNet and SqueezeNet

GOOGLE SUMMER OF CODE | INTERSHIP

Feb – Aug 2016 | Remote with BRL-CAD ([Project page](#))

- Built a cross-platform massively parallel ray-tracer for primitive objects

ACADEMIC ACTIVITIES

SELECTED PUBLICATIONS

1. [\[link\]](#) Hanji, P., Mantiuk, R. K., Eilertsen, G., Hajisharif, S., & Unger, J. “Comparison of single image HDR—caveats of quality assessment”. Siggraph (2022).
2. Mustafa, A., Hanji, P., & Mantiuk, R. K. “Distilling Style from Image Pairs for Forward and Inverse Tone Mapping”. Under review.
3. [\[link\]](#) Zhong, F., Jindal, A., Yöntem, Ö., Hanji, P., Watt, S., & Mantiuk, R. “Reproducing Reality with HDR-MFS Display”. Siggraph Asia (2021).
4. [\[link\]](#) Eilertsen, G., Hajisharif, S., Hanji, P., Tsirikoglou, A., Mantiuk, R. K., & Unger, J. “How to cheat with metrics in SI-HDR reconstruction”. LCI Workshop, ICCV (2021).
5. [\[link\]](#) Hanji, P., Alam, M. Z., Giuliani, N., Chen, H., & Mantiuk, R. K. “HDR Dataset with Adversarial Illumination for Computer Vision methods”. JIST and LIM (2021).
6. [\[link\]](#) Hanji, P., Zhong, F., & Mantiuk, R. K. “Noise-Aware Merging of HDR Image Stacks without Camera Calibration”. AIM Workshop, ECCV (2020).

SOFTWARES MAINTAINED/CONTRIBUTED TO

- **HDRutils**: a python-pip package for common operations on HDR images
- **pfstools**: command line programs for reading, writing and manipulating HDR data
- **TSeriesMMA**: CRAN package on Multiscale Multifractal Time Series Analysis

SKILLS

PROGRAMMING

Proficient:

C/C++ • Python • L^AT_EX

Familiar:

Matlab • Bash

LIBRARIES/TOOLS

Pytorch • CUDA • OpenCV • COLMAP • SLURM • Weights & Biases • Git • SVN • Docker

EDUCATION

UNIVERSITY OF CAMBRIDGE

PHD IN COMPUTER SCIENCE

Oct 2019 - Present | Cambridge, UK

Dept of Computer Science

Supervisor: Rafal Mantiuk

Funded by ERC Grant Horizon 2020

NATIONAL INSTITUTE OF TECHNOLOGY, KARNATAKA

BACHELOR OF TECHNOLOGY

June 2018 | Surathkal, India

Dept of Information Technology

GPA: 8.13 / 10.0

TEACHING

PROJECTS SUPERVISED

Image rescaling by probabilistic disentanglement • Multi-monitor gaze-tracking • Image segmentation by depth and color

SUPERVISIONS AND TICKING

Introduction to Probability • Algorithms • Machine Learning and Bayesian Inference • Programming in C and C++ • Advanced graphics and image processing • Further Graphics • Introduction to Graphics