Eye-Adaptive Technologies

SPEAKER **Prof. Rafał Mantiuk**

Professor of Graphics and Displays Department of Computer Science and Technology University of Cambridge

DATE 19 Dec, 2025 (Fri)

TIME 10:00 AM - 11:00 AM

VENUE CS Seminar Room, Y6405, 6th Floor, Yellow Zone, Yeung Kin Man Academic Building, City University of Hong Kong, 83 Tat Chee Avenue, Kowloon Tong

ABSTRACT

The goal of visual technology is not to surpass the human eye, but to meet it. Every pixel, algorithm, or display improvement that goes beyond what people can actually see adds unnecessary cost in computation, time, or materials. Our research group works on algorithms that align visual technologies with the limits of human vision. In this talk, I will introduce two of our models — *castleCSF* and *ColorVideoVDP* — and show how they can be applied to optimize visual algorithms for perceptual quality.

BIOGRAPHY

Prof. Rafał Mantiuk is a Professor of Graphics and Displays at the Department of Computer Science and Technology, University of Cambridge (UK). He received his Ph.D. from the Max-Planck Institute for Computer Science (Germany). His recent interests include computational displays, rendering, and imaging algorithms that adapt to human visual performance, providing the best image quality given limited resources such as computation time or bandwidth. He has made significant contributions to early work on high dynamic range imaging, including quality metrics (HDR-VDP), video compression, and tone-mapping. More recently, he led an ERC-funded project on a capture and display system that passed the visual Turing test, reproducing 3D objects with fidelity indistinguishable from their real counterparts.

All are welcome!

In case of questions, please contact Prof. MA Kede at kede.ma@cityu.edu.hk, or visit the CS Departmental Seminar Web at https://www.cs.cityu.edu.hk/events/cs-seminars/recent-cs-colloquiums.