
Faculty of Informatics

Ph.D. positions within ERC project: “Perceptually-Driven Optimizations of Graphics Content for Novel Displays”

The Perception, Display, and Fabrication Group at the Università della Svizzera italiana (USI) in Lugano, Switzerland, is looking for highly motivated Ph.D. candidates to work at the intersection of computer graphics, novel display technologies, and visual perception within the ERC Starting Grant project “Perceptually-Driven Optimizations of Graphics Content for Novel Displays”. The positions are fully-funded. We offer a competitive salary in line with Swiss universities.

The goal of the project is to develop new content adaptation and generation techniques for future displays, such that the displayed images closely match the capabilities of novel display devices as well as the requirements of human perception. The approach should assure that the computational resources are not wasted for generating content which is irrelevant to observers, and guarantee the highest perceived quality possible. We would like to focus on the newly emerging display technologies such as virtual reality and augmented reality displays which allow for addressing all visual cues available in the real world.

A successful candidate should have:

- Master degree in computer science or a closely related field,
- a good programming and math skills,
- knowledge of computer graphics/vision tools, such as OpenGL, OpenCV, Matlab,
- fluent English, both written and spoken,
- a strong desire for research and publishing at top venues,
- an experience with deep learning frameworks will be an additional advantage.

The course work and interests in one or more of the following areas are desired:

- computer graphics & rendering,
- image & video processing,
- new display devices (such as VR and AR),
- human visual perception,
- eye tracking,
- machine learning.

Applications should be sent directly to Prof. Piotr Didyk (piotr.didyk@usi.ch). The subject of the e-mail should start with the phrase “[Application]”.

The documents should include:

- CV,
- transcripts of records,
- a statement of purpose,
- contacts to 2-3 persons who agreed to write recommendation letters,
- a complete list of publications, if any.

Perception, Display, and Fabrication Group at the USI Lugano in Switzerland conducts high-quality research in the field of computer graphics and computer vision. Their goal is to combine computational techniques with human perception and hardware design to create better display and fabrication techniques. The areas of expertise include computer graphics, new display technologies, image/video processing, 3D printing, computational fabrication, and human perception. We focus on publishing at the top computer graphics and computer vision venues. Many of our works have been presented as technical papers at the ACM SIGGRAPH conference series. We expect the candidates to contribute to this success. The group has several ongoing collaborations with world-leading research centers including MIT, Harvard, University of Toronto, Adobe Systems, Nvidia, and Max Planck Institute. The future group members are expected to take an active part in these activities.

The Faculty of Informatics at Università della Svizzera italiana is defined by its passion for scientific research. Around 200 top researchers from around the world conduct research in several computer science areas, with tens of millions of Swiss francs in competitive funding obtained to date. Over the years, the Faculty has become one of the leading research centers in Switzerland and an international point of reference in many fields. More information about the faculty: <https://www.inf.usi.ch/en>.

More information about the positions and the group:

- contact: piotr.didyk@usi.ch
- visit: <https://www.pdf.inf.usi.ch/>