

### Key Words

Transcoding

Video storage

Neutral networks

FD-FE

Stitching

### Contact

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## DESCRIPTION

- "High Quality" 360° videos called have not found their market in BtoC because of the high cost of cameras or shooting devices and of several technical issues (resolution, fluidity, stitching, caesura, etc.) However, recent events indicate a growing adoption of 360° video.
- Existing 360° video creation processes are manual and highly time-consuming.
- The invention is based on neural networks to improve the quality of synthesis. It aims to improve the fusion stage, which is obviously the most critical in the synthesis process

## COMPETITIVE ADVANTAGES

- The novelty of the invention is provided by the original way of using neural networks to perform blending.
- The technical advantages are a better quality of the synthesized image, especially with a reduction in the artifacts typical of synthesis algorithms. The innovation consists in the way to use several network architectures to generate the synthetic image.
- The technical advantages developed by this technology are:
  - The use of super resolution in the stitching process, allowing a better quality of 360° videos,
  - Automation of 360° content generation by improved stitching through a spatio-temporal synthesis of virtual views that we developed as part of our work on multi-view video compression,
  - The automatic correction of chromatic differences between views, resulting from our research on HDR (high dynamic range) video,
  - Interactive streaming of these contents.

## APPLICATIONS

- Improvement of the processing chain, after acquisition of a 360 video: fluidity, precision of details, zoom, slow motion, chromatic aberrations: Editing of virtual and augmented reality video games, Editing of 360 video marketing solutions for advertisements and virtual tours
- Scene virtualization, interactive navigation, immersive simulations: Publishing of software solutions for (tele)medicine, education, design
- Scene virtualization, free point of view: Telecom operators, immersive teleconferencing solutions (B2B, B2B2C)
- Remote control of drones (on-board cameras): Military, facility inspection, general public drones

## DEVELOPMENT STAGE

- TRL 6: Demonstration of the system / subsystem model or prototype in a significant environment

## INTELLECTUAL PROPERTY

- Software to be registered soon
- Patent: drafting in progress, to be applied for in May 2019