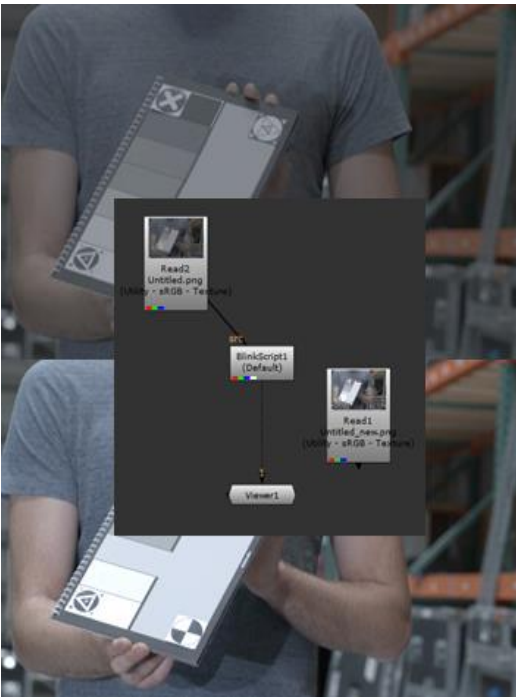


INTERNSHIP OFFER 1563

Ref : RI-ISL-CP-ECPW-6

LAB:	ISL	TA:	Content Processing	PROJECT:	<u>ECPW</u>
Supervisor(s):	Jonathan Kervec, Hassane Guermoud (Apply by sending an email to jonathan.kervec@interdigital.com)				
Required study level:	Master 2 / Engineering degree				
Duration:	6 months (Starting from January-February 2020)				



Color neutralization automation between video shots

This internship focuses on image processing algorithms to preserve color constancy between video shots. The goal of the project is to automate this important step in the movie creation workflow by making use of recent image processing techniques to automatically detect the position of gray charts in the different video shots and optimize the color mapping for neutralization process. Finally, the algorithm will be integrated in a professional video grading platform as a plugin for testing purpose.

Skills:

- Video, Image processing, Color Science
- Python/C programming, ability to write well-structured and documented code
- Good written and spoken English
- Ability to work independently

Keywords: Machine learning, Deep learning, Optimization, Color constancy, Nuke plugin

Context

Within the Image Science Laboratory at InterDigital R&I Rennes, France (former Technicolor R&I), this internship is proposed in the Technical Area “Content Processing” gathering more than 20 researchers, engineers, PhDs, and Postdocs coming from 10 different countries. The main line of research in the team is to understand, organize, and enhance content, both professional and user-generated.

Working environment

Lots of companies bring innovations that improve a single product. At InterDigital, our inventions help improve every product in the markets we participate in, from the most basic to the most advanced, transforming industries and improving products and services that are part of our daily lives.

InterDigital is one of the world’s largest pure research, innovation, and licensing companies, with more than 300 engineers around the world. Our focus is on research and development with pervasive impact: mobile technologies that underpin smartphones, networks and services via global standards, and video technologies that are the foundation for today’s most popular products and services. Wireless and video – arguably the two most impactful technologies today.

On the wireless side, InterDigital has been a pioneer for four decades, with our engineers designing and developing a wide range of advanced technologies that are used in digital cellular and wireless products and networks, including 2G, 3G, 4G and IEEE 802-related products and networks. Today, we’re a leader in 5G research and beyond, a thought leader in our industry and, over the course of the last two decades, the source of more than 30,000 contributions to key global standards.

In video, our existing efforts in key standards have been dramatically expanded with the addition of the Research & Innovation operation of global market leader Technicolor in 2019. With a video R&D heritage spanning decades, while yielding one of the leading innovation portfolios in the industry, what is now InterDigital R&I is a world leader in video research, pioneering new capabilities and making more than 100 contributions to key global video standards. In 2019, the company incorporated a world-class video and AI research team and an established portfolio of video expertise to expand our work in wireless and video technologies and consumer electronics.

Our track record of research & development is matched by our fair licensing practices, which are a model for the industry, and our willingness to partner with virtually anybody in developing new capabilities that will improve technology for consumers and businesses around the world.

InterDigital R&I France in Rennes is the largest of the InterDigital research centers all over the world with more than 160 employees and 25 nationalities. Formerly the biggest research center of Technicolor, it has been acquired in June 2019. Our innovations fuel Interdigital’s technology, and at the same time our researchers publish papers in the top academic conferences. We actively collaborate with numerous universities around the globe. We welcome post-docs, visiting faculty, PhD students and numerous graduate student interns to come and spend time with us in our lab for periods of time from 3 to 36 months.

Since the acquisition by Interdigital, the Technical Area “Content Processing” in which the internship is proposed is continuing its developments and research with Technicolor as final client.

Technicolor is an industry leader in the production of video content for movies, TV, advertising, games and more. The company provides production, postproduction, and distribution services to content creators, network service providers and broadcasters. Technicolor is driving innovation in 3D movie making, 3D entertainment experiences for the home, automatic meta-data creation, second screen experiences, media management and the digital home of the future.