

# Qiu Jueqin

COLOR AND IMAGING · COMPUTER VISION

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## Summary

Currently pursuing my Ph.D degree in Color&Imaging laboratory of Zhejiang University and interested in color constancy of computer vision and color reproduction of digital cameras. Cooperated with corporations as the technical director during my postgraduate period, being highly familiar with the digital image signal processing (ISP) pipeline in mobile devices. Proposed a novel ISP solution based on the camera spectral sensitivity functions estimation, which dramatically simplifies the calibration for imaging devices in the industry.

## Education

Sep 2014 – Jun 2019	PhD Candidate, College of Optic. Sci. and Engr.	Zhejiang University
Sep 2010 – Jun 2014	B.S., School of Instr. Sci. and Opto-Electr. Engr.	Beihang University

## Projects

### Applications of the colorimetric sensor in the ISP of mobile devices

ams Semiconductor

TECH LEAD

Feb 2017 – Present

- To propose a CNN-based AWB framework to improve the reliability of the illuminant estimation for extreme scenarios where the low-level based AWB algorithms perform poorly, with the use of ams TCS3430 sensors.
- To improve the color reproduction accuracy of images with flash.
- To dynamically control the brightness and chrominance of the display by monitoring the photometric and chromatic parameters in the environment.

### Digital image signal processing in mobile devices 🔗

Rockchip Semiconductor

TECH LEAD

Oct 2015–Sep 2017

- To propose a total ISP solution from Raw data to final displayable output, including modules of camera spectral sensitivity estimation, lens color shading correction, auto white-balancing, color correction, etc.
- The proposed solution exceeds the average color reproduction performance in the industry (by the date of the test).  
📄 [Obj./subj. assesment \(zh\)](#), 📄 [Single-blind test \(zh\)](#).

### Color correction for 3D scanning cameras

Shining 3D

TECH LEAD

May 2017 – Apr 2018

- To propose color correction solutions for <white light + RGB CMOS> and <color light + monochrome CMOS> two types of 3D scanning cameras;
- Significantly improved the color reproduction accuracy. 🎥 [Demo video](#).

### Study on Image Quality of OLED HDR Displays 🔗

LG Display

MAJOR PARTICIPANT

Jul 2016 – May 2017

- To assess the image quality and image attributes for OLED, IPS LCD and VA LCD TVs.
- The results of visual experiments indicate that the OLED TV is superior to LED TVs in blackness, contrast, low-gradation, and artifacts, and has stronger image quality user preference.

### Study on Color Volume of HDR Displays

LG Display

TECH ADVISOR

Aug 2017 – Present

- To propose a new color quality volume metric to remedy the poor correlation of the original  $L^*a^*b^*$  metric between the color quality volume size and the perceptual image quality.



## Publications

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**DistillNet: a novel framework for color constancy** 

*IEEE Trans. Pattern Anal.*


*Mach. Intell.*

*In progress*

**Image quality degradation of object-color metamer mismatching in digital camera color reproduction** 

*Applied Optics*

*Apr 2018*

**Camera response prediction for various capture settings using the spectral sensitivity and crosstalk model** 


*Applied Optics*

*Oct 2016*

**Comparison of object-color and illumination metamerism for digital image color correction** 

*13th AIC Congress*

*Oct 2017*

**Investigation of impacting factors on camera calibration for spectral sensitivity estimation** 

*3rd Conference of Asia Color Association*

*May 2016*

**A highly tolerant color correction approach for digital cameras [patent]**

UNDER REVIEW

*Apr 2018*

**A color adaptation model based auto white-balance approach for digital cameras [patent]**

PUBLISHED, ZL 2017 1 0442492.3

*Oct 2017*

**An illuminant-adaptive lens color shading correction approach for digital cameras [patent]**

AUTHORIZED, ZL 2016 1 0334669.3

*Sep 2016*

## Honors

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2016 – 2017

Outstanding Postgraduate Student

2015 – 2016

National Scholarship for Postgraduate Students

2015 – 2016

Merit Postgraduate Student

2015 – 2016

Outstanding Postgraduate Student

2014

National Second Prize of the Challenge Cup

