Chuck Yin

Phone: (408)-550-3632, Email:yyin@me.com

1455 Market Street, San Francisco, CA 94103

Industry Experience

2014-present Sr. Hardware Manufacturing Lead Square Inc

- Define test flow, test stations, and bring up the whole SMT/FATP manufacturing line for Square hardware product from proto build till mass production.
- Develop **one** repository for the full manufacturing line, totally 100+ stations. Overall Yield > 98% for SMT and FATP with UPH 270.
- Customize the manufacturing infrastructure for Square, including the shop floor system, the ground-hog system and product data collection and analysis system.
- Mange/drive contracting manufacturer: Foxlink, Flextronics; equipment vendors: Litepoint, National Instruments, Thales e-Security, Keysight, Agilent; fixture vendors including: Myzygroup, QXQ, Microtest automation, P&R measurement.

2010—2014 Principle Display Test Engineer Apple Inc

- Founding member of Apple display testing group. Bring up the display testing automation stations for iphone, ipad and ipod touch displays at Foxconn and Pegatron, including the equipment setup, fixture, algorithm, and final implementation to meet mass-production requirements. iPad/iPhone LCDU station DRI(light leakage, yellow mura), RGBW station DRI(white point and gamma calibration). Spectro-colorimeter station DRI. Apple Watch Display Optics DRI.
- Lead instrumentation design to achieve the simultaneous measurement of spectrum, imaging and flicker to meet optimum balance of accuracy, speed and data completeness.
- Build the subjective lab model to integrate the cognitive vision, machine learning to improve the automated display test station to human eye level.
- Manage/drive international equipment vendors including Konica Minolta, Instrument Systems, Radiant Imaging, Westar, Gooch and Housego, Hanzhou Sensing, Evarstar. Manage/drive fixture vendors: Todtech, Innorev, Intelligent, Boozhong, etc.
- Represent Apple for display testing to participate display metrology committee and draft display design and test standards. SID committee member.

2008—2010 MRIC Research Scientist Qualcomm Inc

- MEMS Research and Innovation Center member to conceptualize the gesture based user interface of Ebook application.
- Maintain and develop Qualcomm MEMS division IP portfolio and contribute to strategic decision. Develop emerging technologies including transparent solar window, color coded 2D/3D human machine interface.
- Design, test and perform root cause failure analysis of the MEMS reflective display. Manage one hundred virtual machines and perform the non-imaging ray-tracing monto-carlo simulation using Breault Research ASAP.

2007—2008 Sr. Product Integration Engineer Coadna Photonics Inc

- Performed the opto-mechnical tolerance analysis of wavelength selective switches (WSS). Analyzed parts, assemblies, systems and installations of varying complexity from design criteria.
- Performed the design verification and reliability analysis using finite element method. Simulate the impact of thermal stress, vibration and improper assembly caused system-level product failure using COSMOSworks and Zemax.
- Participated the failure mode and effects analysis (FMEA) to reduce the potential product failure at the early stage.

2006—2007 Sr. Display Optics Engineer MicroDisplay Inc

- Four primary (RGBW) color system to maximize the brightness and maintain image
- Implemented the dynamic back light system for LCoS rear projection TV using Osram Smart Black Illumination Scheme.

Education

2001—2006 Ph.D. Display Engineering (Samsung Fellowship) Kent State Univ.
1997—2001 B.S. Systems Engineering Beijing Normal Univ.

Academic Achievement

1 book chapter, 16 patents, 26 publications; including 9 journal publications (2 Phys Rev Lett, 1 Phys Rev E, 1 J. Appl Phys, 2 Mol Cryst Liq Cryst, 1 Liq Cryst, 1 Elec. Liq. Cryst) and 17 conference publications. 2004-05 Samsung fellowship winner. 2008 Glenn H Brown Prize.

Patents

1. Imaging method and system with angle-discrimination layer US8970767 B2, US20120327288 A1
2. Light collimating manifold for producing multiple virtual light sources US 20130135358 A1
3. Microstructures for light guide illumination US20110025727 A1
4. Gesture-responsive user interface for an electronic device US 20130135188 A1
5. Photovoltaic window with light-turning features US20130118547 A1
6. Optical touch device with pixilated light-turning features US 9019240 B2
7. Light direction distribution sensor US 20130169606 A1
8. Displays and Temperature Adaptive Display Calibration US20140028858 A1
9. Parallel sensing configuration covers spectrum and colorimetric quantities with spatial resolution US9076363 B2
10. Directional Light Sensors US20140085265 A1
11. Imaging pipeline for spectro-colorimeters US20140300753 A1
12. Method and apparatus for display calibration US8890908 B2
13. Methods and systems for cloud computing to mitigate instrument variability in a test environment US 20140074421 A1
14. Homeotropic and hybrid bulk alignment of lyotropic chromonic liquid crystals US 8704977 B2
15. High accuracy imaging colorimeter by special designed pattern closed-loop calibration assisted by spectrograph. US8988682 B2
16. Imaging Sensor Array Testing Equipment US9176004