Chen Zhang

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Education Background

08/2014-Present Illinois Institute of Technology

Expected Degree: Doctor of Philosophy in Electrical Engineering

08/2012-08/2014 Illinois Institute of Technology

Degree: Master of Science in Electrical Engineering

GPA (overall): 3.88/4.0

09/2008-07/2012 North China Electric Power University

Degree: Bachelor of Engineering in Electronic Information Engineering

GPA (overall): 80/100

MS Thesis

Two-layered depth estimation using semi-global matching with mutual information *07/2014*

➢ A revised depth estimation method that combines both local and semi-global matching is proposed. By adding a low resolution layer that applies local method, the computation of mutual information becomes straight forward and no iteration is needed. Also two simplification schemes for semi-global matching are proposed to reduce the computational load. The results shows that the proposed method performs well compared with other SGM based method, and it is insensitive to illuminance change and runs at real-time speed.

Related Coursework or Project

Image recognition by feature patterns *04/2013*

➢ Classified nuts and bolts in the same image by fisher discriminant, discussed the choice of different feature patterns based on different applications and images, tested the performance of normal discriminant and fisher discriminant.

UWB and its application in radar system *02/2013*

➢ Introduced ultra wideband(UWB) communication system including the definition of ultra wideband signal, the architecture of wireless UWB system and finally focused on its application in radar system.

Image segmentation *02/2013*

➢ By using Matlab, implemented image segmentation by different segmentation methods like thresholding, k-means clustering and region grow. Also implemented edge detection and calculated shape descriptors like area, perimeter and orientation.

Perceptual metric for image assessment *11/2012*

- Discussed the shortage of original mean square error metric and introduced and implemented perceptual metric as a relatively better method for image assessment by Matlab and discussed its advantages and performance.

Ultrasound imaging   *11/2012*

- Introduced ultrasound imaging system including the physics of ultrasound wave, the instrumental structure of pulse-echo ultrasound imaging system, mathematic methods of the imaging system and color Doppler image.

EBMA   *10/2012*

- Utilized Matlab to implement EBMA and test its performance under different block size and search range, also implemented half-pixel EBMA and EBMA under extremely low block size.

JPEG compression   *09/2012*

- Wrote a C++ program to implement Bitmap to JPEG compression. Also tested the performance like SNR and implemented decompression from JPEG back to Bitmap.

Electronic Tug-of-war Game Design in Electronic Technique Comprehensive Experiment   *01/2010*

- Took charge of logical function design, circuit design and simulation with Multisim and completed design of hypostatic electronic tug-of-war game by using logical chip and circuit

SoC (System on a Chip) Design IP Core: Application Design of NCO   *07/2010*

- Utilized IP core function in QUARTERS to design (1)FSK; (2)PSK; (3)DDS; (4) phase shifting generator; (5) swept signal source; (6)ADPLL

Application Experiment of Embedded PLL   *07/2010*

- Utilized embedded phase-locked loops of Cyclone device on QUARTUS setting

Design of Addition Counter with Asynchronous Clear and Synchronous Clock Enablement   *07/2010*

- Utilized QuartusⅡ to program an addition counter with asynchronous clear and synchronous clock enablement, conducted SignalTap simulation, real-time monitoring and hardware testing

Internship

02/2011   Xieli Technological Development Limited Company, Qinhuangdao

- Devised a USB applying program of DAQ Card (Data Acquisition Card) for customers by Visual C++.

08/2011-09/2011   North China Electric Power University

- Utilized Protel99 software, PT100 platinum resistor and the method of corroding printed circuit board to design a digital temperature sensor

Skills

C++, Matlab, Multisim, QuartusⅡ, LabView, JAVA, JavaScript, HTML