Kun Yang

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Education

Case Western Reserve University(CWRU) OH, U.S.
PhD Candidate, Biomedical Engineering 08. 2015 - present

- Main track: Magnetic Resonance Imaging (MRI) Technology Research.

Syracuse University(SU) NY, U.S.
M.S. Candidate, Computer Engineering 08. 2013 - 05. 2015

- Core Course: Digital Signal Processing, Algorithm and Data Structure, Object Oriented Development.

Harvard Medical School(BIDMC) MA, U.S.
Research Student 06. 2014 - 09. 2014

- Cardiovascular MRI: Compressed Sensing, LOST Reconstruction, Coil Compression, Radial Angle Recon.

University of California, Berkeley(UCB) CA, U.S.
Exchange Student 07. 2010 - 08. 2010

- Scholarship for the Excellent International Exchange Student

Beijing Institute of Technology(BIT) Beijing, China
B.E. Electrical Engineering 09. 2008 - 06. 2012

- GPA: 85 (Scholarship for 6 consecutive times), GRE: 324
- First prize in the 2011 Chinese University Students' Creativity Forum

Publication

Yang Kun, Du Chen-lin. **Design of Mobile Acoustic Source Positioning System.** *The IEEE International on Networks Security, Wireless Communications and Trusted Computing (NSWCTC) 2011* .

Research

Research on Cardiovascular MR Imaging Boston
Research Student at BIDMC of Harvard Medical School. Supervisor: Dr. Reza Nezafat 06. 2014 - present

- Develop and optimize vivo MRI to allow faster scanning and reconstruction at 1.5T.
- Apply Coil Compression, Remove oversampling, Norm comparison, Transfer to C code to optimize Compressed Sensing **(LOST)** reconstruction from 85 min to 15 min.
- Dynamic MRI: design K-Space trajectories and Golden/Linear Angle reconstruction.
- Involved and learn project of T1 and T2 mapping and pulse sequence schemes.

Angiographic Sequence Images based on Optical Flow Motion Analysis Syracuse
Researcher. Supervisor: Dr. Alaa Daham 03. 2014 - 06. 2014

- Detect and Track coronary motion based on optical flow motion analysis.
- Apply pixel-by-pixel motion estimation for image sequences to achieve high accuracy comprehensive detection.
- Build several motion analysis models to evaluate our method and performance.

Real-Time Gesture Recognition HCI System Beijing
Researcher. Supervisor: Dr. Luo Senlin 11. 2010-03. 2012

- Develop a real-time, efficient algorithm to separate gesture segment and complex background. Then modify gesture image based on skin color filter(RGB/HSV space model).
- Co-work to complete the image extracting and to design human-machine interfaces.

Research on LFM and NLFM pulse compression technique Beijing
Designer. Supervisor: Dr. Shan Tao 12. 2011 - 06. 2012

- Design LFM and NLFM waveform and pulse compression, compare their side lobe parameters and Doppler Effect under different weighting functions.
- Introduce a proposed waveform design method using **Combination Window Function** and **Modified Spectrum Filter**, obtain the performance statistics of the simulation.

Research on MIMO Radar Imaging Beijing
Assistant Researcher. Supervisor: Dr. Zhao Guoqiang 08. 2011 - 12. 2011

- Research on MIMO radar imaging methods such as equivalent phase center approximate method and computerized tomography (CT) imaging method.
- Analyze the MIMO radar orthogonal waveform characteristics.

Course Workshop

Algorithm and Data Structures projects — C++ based, 10000 lines 02.2014 - 05. 2014

- Design complicated Algorithm, like Smooth sort, fast heap sort, skip list, B/R tree, Graphs and hashing.
- Accurate and fast design which ranks 3 out of 115.

Object Oriented Design(OOD) final project — C++ based, 6500 lines 02.2014 - 05. 2014

- Provide a server that supports uploading and downloading. provide a client process that uses **WPF** to build a **GUI** that supports processing requests, thread choosing and displays performance information.
- Perform similarity analyses between specified files and string searches within source code files.
- Support the capability to specify the number of threads that will participate in the processing.

Optimization the performance of JPEG compression — Matlab based 04. 2014 - 05.2014

- Improve the quality of JPEG Image by using Digital Wavelet Transform instead of Digital Cosine Transform.
- Find better quantization matrices to improve the quality of compressed image in different compression ratio.
- Apply Empirical Mode Decomposition(EMD) algorithm to decompose 2D image signal.

Work Experience

Synopsys, Inc. Shanghai
Development Engineer,AMSG Dept 08. 2012 - 03. 2013

- Research electronic design automation(EDA) software: HSPICE, and mainly focus on maintain its high quality.
- Make regression of UNIX code on other platforms, fix the errors during binaries building on windows side.

Other Information

- **Proficiency: C/C++**(30000 lines), **Matlab**(10000 lines), Linux, OpenCV, LaTeX.
- Excellent Student Scholarship in Beijing Institute of Technology(6 consecutive times).
- Provincial Honor Student in ShannXi Province of China.
- **IEEE** student member.