

# Hua Bao

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## OBJECTIVE

Full time / Co-op / Internship position on research and development in the area of digital signal processing.

## RESEARCH INTEREST

Noise Control, Speech Enhancement, Dereverberation, Echo Cancellation, Adaptive Filtering

## EDUCATION

- ※ **Ph.D.** student (Electrical Engineering), **GPA: 4.0/4.0** **Sep. 2006 - Present**  
*The Univ. of Texas at Dallas*, Richardson, Texas  
*Statistical Signal Processing Research Laboratory*, **Advisor:** Dr. Issa M.S. Panahi.
- ※ **M.S.** (Electrical Engineering), **GPA: 90/100** **Sep. 2000 - Apr. 2003**  
*Nanjing Univ. of Aeronautics and Astronautics (NUAA)*, China  
*NUAA-TI (Texas Instrument) DSPS Lab*  
Area: Signal Processing  
Thesis: “*Research on Real-Time Algorithm for Digital Video Processing System and Development of Software Platform*”  
Exempt from entrance exam for graduate school based on merits.
- ※ **B.S.** (Electrical Engineering), **GPA: 87/100** **Sep. 1996 - Jun. 2000**  
*Nanjing University of Aeronautics and Astronautics*, China  
Thesis: “*Research on Nonlinear Distortion in Amplifiers*”  
Exempt from college entrance exam based on merits.

## INDUSTRY EXPERIENCE

- ※ **Software Engineer, Motorola** (Nanjing, China) **Apr. 2003 – Jul. 2006**  
Embedded System Development  
Responsible for software development on Motorola subscriber products, primarily focusing on the implementation of mobile applications, software / hardware interface, device drivers and signaling of wireless communications.
- ※ **Feature development for U.S. Verizon, Motorola** **Dec. 2005 – Jul. 2006**  
Developed SMS (Short Message Service) feature on Qualcomm BREW platform with cooperation with the third party company Rocket Mobile to customize CDMA phones according to carrier’s specific UI requirement.
- ※ **Product development for TELUS, BELL (Canada carriers), Motorola** **Sep.2004-Dec.2005**  
Customized CDMA phones for TELUS and BELL, including features of Multimedia, Calling, SMS, J2ME. Products: V3c, E815, V265/V262, V710
- ※ **WORLDPHONE project for CHINA UNICOM, Motorola** **Aug.2003-Jun.2004**  
Implemented SMS feature in dual-mode cell phone (GSM and CDMA) for Unicom China. Four engineers rewrote the device layer of SMS with 30,000 lines’ code in two months. Developing languages are C and C++. Debugging tools are JTAG and TRACE32.

## HONORS AND AWARDS

- ※ Jonsson School Distinguished Fellowship, Univ. of Texas at Dallas, **Sep. 2006 – Aug. 2008**
- ※ Certificate of Excellence for the contribution on launch of V265/V262 for Telus (Canada Carrier),

- Motorola **Jul., 2005**
- ※ Certificate of Excellence for the contribution on V710 for Telus, Motorola **Jan., 2005**
  - ※ First Prize at the *National Mathematical Contest in Modeling(Jiangsu, China)* **1998, 1999**
  - ※ First Prize at the 7<sup>th</sup> *Jiangsu Province College Physics Contest* **1997**  
(Rank 15<sup>th</sup> among 1700 participators)

### **RESEARCH EXPERIENCES**

- ※ **Research Assistant in Statistical Signal Processing Laboratory, UTD** **Sep. 2006 - Present**  
Research on active noise control, blind dereverberation, subjective speech enhancement
- ※ **R&D of Airplane Video Processing System, NUA** **Jan. 2002-Jan. 2003**  
Developed video processing system based on AD21160 DSP to conduct image enhancement and character recognition in airplane. Take main responsibility on software and algorithm.
- ※ **R&D of Digital Phase Detecting System, NUA** **Jul. 2001-Jan. 2002**  
Developed signal processing board based on TMS320C5410 DSP and PCI bus for Direction Finding System, including work on algorithm development, software / hardware implementation.
- ※ **Research on Nonlinear Distortion in Amplifiers, NUA** **Jun. 2000-Sep. 2000**  
Nonlinear distortion is analyzed with the notions of total harmonic distortion, intermodulation distortion and intercepting point. Simulate several types of amplifiers with the EDA software Multisim.

### **PUBLICATIONS**

- ※ **H. Bao**, I. Panahi, N. Pathak, “Active Noise Control Based On Kernel Least-Mean-Square Algorithm”, To appear in Proc. of 42<sup>nd</sup> Annual Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, Oct. 26-29, 2008
- ※ **H. Bao**, I. Panahi, R. Briggs, “Blind Dereverberation Using Linear Prediction for MRI Acoustic Noise in a Realistic Environments”, Submitted to IEEE Transaction on Biomedical Engineering, Aug. 2008
- ※ **H. Bao**, I. Panahi, P. Loizou, Y. Hu, “Music Injection For Subjective Speech Enhancement And The Psychoacoustic Pleasantness Analysis”, Proceedings of the Sensor, Signal and Information Processing (SenSIP) Workshop, Sedona, AZ, May 11-14, 2008
- ※ **H. Bao**, I. Panahi, R. Briggs, “Blind Dereverberation for fMRI Noise Based on SIMO Linear Prediction Method”, 29th IEEE EMBS Ann. Inter. Conf., Lyon, France, Aug. 23-26, 2007
- ※ **H. Bao**, G. Wang, N. Li, “Character Recognition of Instrument Board in Sequent Color Image”, IS&T/SPIE’s 15<sup>th</sup> Annual Symposium on Electronic Imaging, Santa Clara, CA, Jan. 2003
- ※ G. Wang, **H. Bao**, J. Zhou, etc., “Research on Real-time Implementation of Digital Video Processing System Based On DSP”, 17<sup>th</sup> Nanjing Annual IT Conf., Nanjing, China, Dec.2002
- ※ **H. Bao**, Z. Ge, J. Zhou, etc. “Digital Phase Detecting Based On Hilbert Transform and Its DSP Implementation”, North-east Asia IT symposium, pp.199-203, Jan.2002
- ※ C. Wang, **H. Bao**, “Research on Nonlinear Distortion in Amplifiers”, Transactions of Nanjing University of Aeronautics & Astronautics Vol.17, No.2, pp.182-187 Dec.2000.

### **TECHNICAL SKILLS**

- ※ High Level and Assembly Languages: C, C++, TI TMS320C54X, 80X86
- ※ Script Languages: VBA, PERL
- ※ Integrated Development Environments: Visual C++, MATLAB, LABVIEW
- ※ Embedded Platform and Tools: Motorola Platform2000, BREW, J2ME, JTAG, TRACE32
- ※ Electronic Design Tools: PSPICE, Maxplus II, PROTEL, MULTISIM, VHDL, EWB
- ※ Software Tool: Source Insight, Source Navigator, Clearcase