

**Wei Jiang**

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**Objective:**

Engineer Position in Digital VLSI/ASIC/FPGA Development

**Education:**

M.S. in Electrical Engineering, expected May 2005  
University of Tennessee, Knoxville, TN  
GPA: 3.8/4.0

M.S. in Physics, 2002  
University of Tennessee, Knoxville, TN  
GPA: 3.8/4.0

B.S. in Electronics, 1998  
Peking University, Beijing, China  
GPA: 3.75/4.0

**Related Academic Projects:**

- **Master Thesis: Development of an Open Core System-on-Chip Platform:**  
Designed a SoC with all open cores (leon2 SPARC processor, AES module, AMBA bus) targeting TSMC18 process. Synthesized, placed and routed to the final layout with Cadence/Synopsys tools. Total transistor count is about 2M. Design expected to be sent to MOSIS for fabrication in May.
- **Master Thesis: Abnormal Pulse Measurement and Modeling for KamLAND Photomultiplier Tube:**  
Studied the abnormal pulse phenomenon in the photomultiplier tube used in KamLAND Neutrino Detector. Measured the sample tube in the lab and established physical/statistical model. Developed simulation routine for abnormal pulses simulation used in KamLAND experiment data analysis.
- **Non-Restoring Array Divider Design and Implementation:**  
Implemented an 8-bit Non-Restoring Array Divider. From Schematic Drawing to Manual and automatic cell Layout/P&R. Chip fabricated by MOSIS and tested in the lab.
- **Huffman Decoder for MPEG Audio Decompression:**  
Implemented the Huffman Decoder block in MP3 decoding, written in VHDL and synthesized, placed and routed targeting Xilinx 1000e. Design simulated and verified in Pilchard PCI Virtex Prototyping board.

- Design of a Microelectronic System for Elevator Controller  
Designed a simulated elevator controller with external user input, written in VHDL, synthesized, placed and routed targeting Altera EPF10K20. Design tested on Altera Prototyping Board in the lab.

### **Electrical Engineering Skills:**

- Good Understanding of digital VLSI systems. Familiar with FPGA & ASIC design flow.
- Knowledgeable about semiconductor devices: diodes, MOSFET, MESFET, Semiconductor Lasers etc.
- Familiar with CAD tools: Cadence, Synopsys, Xilinx, ADS, SPICE.
- Proficient in VHDL, MatLab, C/C++, Perl, Win/Unix/Linux Systems.
- Knowledgeable about DSP theory: Sampling, FIR/IIR Digital Filter and DSP applications. Computer Architecture, Computer Network.
- Good knowledge in Numerical Analysis Method and Optimization Algorithms.

### **Related Coursework:**

ASIC Design, Microelectronics Systems, CAD of VLSI System. Digital Systems Verification, Advanced Analog Electronics, Microwave Networks and Components. Computer Architecture, Digital Signal Processing, Pattern Recognition

### **Experience:**

#### **Graduate Assistant**

Aug 2002 - Present

SunSITE(Sun Software Information Technology Exchange)  
University of Tennessee, Knoxville, TN  
Web-based/Database software development, System administration

#### **Research/Teaching Assistant**

Sept 1999- July 2002

Dept. of Physics,  
University of Tennessee, Knoxville, TN  
Photon Detector and Electronics Equipment Simulation and Modeling for KamLAND Neutrino Experiment in Japan.

#### **Research Assistant**

July 1998 - May 1999

Lab of Digital Signal Processing  
Institute of Acoustics, Chinese Academy of Sciences, Beijing, China  
Developed prototype for Chinese Voice Recognition with Neural Network/HMM model.

### **Reference:**

Available upon request