

Qingyu Chen

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OBJECTIVE To obtain a full-time system or software development position in the field of communications or information system.

EDUCATION **Stevens Institute of Technology**, Hoboken, NJ
PhD in Electrical Engineering, Expected 06/2004 GPA 4.0/4.0
Thesis: "Joint Source-Channel Decoding in Non-distributed and Distributed Environment"
Huazhong Univ. of Science and Technology, Wuhan, China
Master of Engineering in Electrical Engineering, 06/2001
Thesis: "Research and Implementation on Real-time Video Transmission over the Internet"
Huazhong Univ. of Science and Technology, Wuhan, China
Bachelor of Engineering in Electrical Engineering, 06/1998

SKILLS **Languages:** C/C++(5+ years), Java, Matlab, Pascal, Visual Basic, Assembly, HTML, XML, JavaScript, VBScript
Hardware: VHDL, ASIC/DSP/FPGA design, Real-Time Operating System (RTX, QNX), Microprocessor circuit, Analog circuit
Software: Net simulator, Opnet, Cadence EDA Tools (SPW, Ambit, Synplify), Microsoft Visual Studio .NET
Standards: RTP/RTCP, TCP/IP, H26L, MPEG1/2/4, JVT, JPEG/JPEG2000, CELP, AAC
Others: SQL, DB2 (IBM Certified Expert), xDSL, Packet Video, Sockets, MFC, Multithread programming, DOS/Win/UNIX programming, error control coding (RS codes, convolutional codes, turbo codes), Watermarking, Network QoS, ATM

PUBLICATION

- Q. Chen and G. Zhu, "MPEG-4 Video Transmission over RTP", TV Technique, China, 2001.
- K.P. Subbalakshmi and Q. Chen, "Joint Source-Channel Decoding for MPEG-4 Coded Video Over Wireless Channels", IASTED WOC 2002, Banff, Canada, July 2002.
- Q. Chen and K.P. Subbalakshmi, "Trellis Decoding for MPEG-4 Streams Over Wireless Channels", IS&T/SPIE Electronic Imaging, Image and Video Communications and Processing, Santa Clara, January 2003.
- Q. Chen and K.P. Subbalakshmi, "An Integrated Joint Source-Channel Decoder for MPEG-4 Coded Video", IEEE Semi-Annual Vehicular Technology Conference, October 2003.
- Q. Chen and K.P. Subbalakshmi, "Joint Source-Channel Decoding for MPEG-4 Video Transmission Over Wireless Channels", IEEE JSAC-Special Issues on Recent Advances in Wireless Multimedia, Dec. 2003.
- Q. Chen and K.P. Subbalakshmi, "Distributed Joint Source-Channel Decoding of Multiple Access Source Codes: Markov Sources", submitted to IEEE Communication Letters.

EXPERIENCE **MSyNC Lab, Stevens Institute Of Technology**, Hoboken, NJ
Research Assistant 09/01 – Present

- Project: "Error Resilient Multimedia Communications".
 - Design several algorithms of Joint source-channel decoders for MPEG-4 video. These algorithms can greatly improve the video playback quality.
 - Simulate the environments of MPEG-4 video transmitted over wireless channels by utilizing Visual C++, Matlab. Implement the MPEG-4 error resilience tools and FEC (RS or convolutional codes) protection of variable length codes.
- Develop a distributed joint source-channel decoder to improve the performance of distributed sensor networks and surveillance cameras for security.

Teaching Assistant 09/01 – 12/01

- Assisted in course "Introduction to Multimedia Networking". Helped students on project of image/video coding and networking. Taught students how to use Visual C++.

Huazhong University of Science & Technology, Wuhan, China
Research Assistant 06/97 – 05/01

- Project: "Transmitting MPEG-4 video over Internet".
 - Designed an algorithm for the RTP packetization of MPEG-4 elementary video stream.
 - Designed a TCP friendly video rate control algorithm.
 - Implemented a prototype of MPEG-4 coded video transmitted on Internet using RTP/RTCP by Visual C++.
- Project: "PSTN based industry remote monitor and control system".
 - A data/video monitor and control system was developed for industry ceramics machines by Visual C++.
 - Client requirements analysis, specification design, program development, system debugging on network and multithread environment, testing and improving the stability of the system in a real industry environment, product delivery and maintenance.

- It is equipped in some ceramics factories in China and patented in China.
- MPEG-4 video standard was implemented using Cadence SPW on HP-UNIX to generate VHDL codes for FPGA implementation.
- Designed and developed a micro-controller controlled anti-interfere memory circuit by using 80C51 Assembly language.
- A window GUI based electronics Lab teaching software was developed by using Visual Basic.

HONORS

- Graduate Assistantship, Stevens Institute of Technology 2001 – 2004
- Graduate Scholarship, Huazhong University of Science & Technology 1998 – 2001
- Outstanding Student Scholarship, Huazhong University of Science & Technology 1994 – 1997
- Runner-up for College Software Design Competition, Huazhong University of Science & Technology 1996

ACTIVITIES

President of Chinese Scholar and Student Association at Stevens Institute Of Technology 2003

REFERENCE

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INTERESTES

Basketball, Music, Dance