



Abbas Javadtalab

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DISCOVER Lab, School
 of Engineering, University
 of Ottawa, Ottawa ON,
 Canada.

Objective

Active researcher in the area of Computer Networks and Network Delivery, especially in Proxy Caching, Digital Video Broadcasting for Hand Held Devices (DVB-H), Streaming over Internet, Network Processors, Communication Processors, Video/Image Processing, Wireless Communication, Reliability and Embedded Systems.

Education

PhD DATE:2009-Present	In Electrical and Computer Engineering, Major is Multimedia Network at School of Information Technology, University of Ottawa Supervised by Prof Shervin Shirmohammadi,2009
M.SC DATE: 2002-2005	In Computer Hardware, major in Computer Architecture Engineering at Department of computer engineering, Sharif University of Technology GPA: 17.98/20 Thesis: Proxy Caching for Video on Demand Over the Internet Supervised by Dr. Hamid Reza Rabiee, 2005
B.SC DATE :1997-2002	In computer engineering, major in Computer hardware at Faculty of Engineering, Computer group, Islamic. Azad University of Arak. GPA: 14.18/20 Thesis: Research and Analysis on Arithmetic and Logic Operator in High Speed Mode (Current Mode) Supervised by Dr Keyvan Navi, 2002.

Courses

Fall 2003: CE 40-712 - Digital Video Systems(18.5/20)
 Fall 2003: CE 40-763 - Digital Signal Processing(17/20)
 Fall 2003: CE 40-723 - Advanced Computer Architecture (14.4/20)
 Spring 2004: CE 40-693 - Advanced Networks (19/20)
 Spring 2004: CE 40-783 - advanced topic in VLSI design(19/20)
 Spring 2004: CE-40-793 - Advanced Digital Signal Processing (19.5/20)
 Fall 2004: CE-40-632 - Fault-Tolerant Systems(19.7/20)
 Fall 2004: CE-40-900- Project Seminar (19.1/20)
 Spring 2005: CE-40-833- Speech Recognition(16/20)
 Fall 2009: ELG 7187- Software Engineering Project Management(A+)

Personal information

Date of birth	January 26 th ,1979
Citizenship	Iranian
Marital status	Married

Research Interests

Computer and Communication Networks
 Multimedia Streaming
 Digital Video Broadcasting for Hand Held Devices (DVB-H)

Streaming over Internet
Network Processors
Communication Processors
Video/Image Processing
Wireless Communication
Computer Networks
Reliability
Digital Signal Processing and Wavelet Transform
Computer Architecture
Embedded Systems

Research experience

Research Assistant

Fall 2004: CE 40-242 - Signal and System supervised by Dr S.kasaei.

Spring 2004: Digital Electronics Lab supervised by Dr M.T.Manzuri

Spring 2004: Logical Circuit Lab supervised by Dr Amir Hossein Jahangir

structured course

**Fall 2007, Spring 2008, and Fall
2008, Spring 2009**

**Department of Computer Group, Qom
university**

<http://www.qom.ac.ir/Per/AC/engene/comp/puter.html>

Computer System Architecture:

Processor Organization and Design; Microprogramming and Control Unit Design; I/O Organization; Interrupt, Memory and its organization mechanism, Pipeline and its method, Case studies of Selected Machine Architectures

Fall 2007, Fall 2008

**Department of Computer
Group, Qom university**

<http://www.qom.ac.ir/Per/AC/engene/comp/puter.html>

Logical Circuit Design Principle:

Principles and Techniques of Logic Design. Combinational Circuit Analysis (Hazard Detection); Combinational Circuit Design including PLA, and Testing Techniques; IC Logic Families, Flipflop Properties, Sequential Circuit Analysis and Synthesis for Fundamental and Pulse Mode Circuits, Design for Testability Techniques.

**Fall 2007, Spring 2008, and Fall
2008**

<http://www.qom.ac.ir/Per/AC/engene/comp/puter.html>

Logical circuit design lab

Fall 2009

Multimedia Systems

<http://www.qom.ac.ir/Per/AC/enggen/computer.html>

Experiences

DISCOVER Lab

(Oct. 2009- present)

As a researcher working on video processing.

Robotic Group Manager

(Qom university)

2008-2009

Design and implement small size line follower robot.

Moudj Khavar Corp

<http://www.fanamoj.com/>

(2004-2009)

Computer System manager

As a member of Radio Group Computer manager working on Digital Video Broadcasting over Handheld Devices (DVB-H) ,especially on Multi Protocol Encapsulation Standard , ESG Service and Quality of Service Section.

Mobile Broadcasting Television based on DVB-H standard:

Over the last several years TV content to mobile devices has a rapid growth and brings any information to consumers irrespective of their location. We have designed and implemented a Mobile TV Network based on Digital Video Broadcasting to a Handheld (DVB-H) standard. IP datagram is delivered in format of Multi-Protocol Encapsulation and transmitted in a hierarchical mode with DVB-T services. This pilot system contains IP Encapsulator (IPE), Single Frequency Network (SFN) Adapter, Modulator, and Power Amplifier 140watt in a broadcast network with two cells.

Digital Portable Microwave Link:

For studio applications and outside broadcasts, we have designed and implemented a microwave portable link based on internal COFDM modulator. Control Unit designed for 70MHz IF output frequency and Head Unit for frequency band 10.4GHz~10.7GHz with output power 1watt.

Local Multipoint Distribution System(LMDS) Based on IEEE802.16 Standard:

In order to wireless capabilities (IEEE 802.16) we have designed a Multipoint Broadband Wireless System with Motorola Communication Processor(MC8280) that is suitable for various services such as Voice over IP, Internet, Data Transfer, Video Broadcasting Video Multicasting, Video Conferencing, PSTN Voice Transfer

15 GHZ Point to point radio link

Radio link is suitable for the following application:
Cellular Station Interconnection (BTS-BTS BTS-BSC BSC-MSC)
Point-to-Point Data transmission
Data Transmission for Data Networks (LANs) and High Speed Terminals (Video Conference, Fax, etc, ...)

AICTC

www.aictc.com

(08/03 -02/2008)

As a member of DML research lab working on Video Streaming and Video Proxy.

Vaf Company

www.vafcorp.com

(2001-2002)

Developing Network Adapter Card using DAVICOM Chipset

IRIB Department

(2001-2002)

Research assistant in Logical Circuit Lab

Courses & Projects	
Hardware Design	CAD with VHDL, CAD with Verilog, VLSI, Advanced VLSI, Advanced Computer Architecture, Interfacing Systems , Advanced Fault Tolerant Systems, Board design
Academic Projects	<p>Darwin Stream Server(used in MS thesis)</p> <p>Video LAN Client (used in MS thesis)</p> <p>Electronic Display Screen (Microprocessor Project)</p> <p>ISA slot with 8 input and 8 output slot (Micro processor project)</p> <p>ECG noise cancellation with wavelet (DSP project)</p> <p>FFT calculator in VLSI layer by L-Edit (VLSI project)</p> <p>Hardware infrared controller (Digital system lab)</p> <p>Step motor controller</p> <p>DC motor controller</p> <p>Design and implementation of PCI Network adapter card by DAVICOM DM9101 chip.</p> <p>Receiver/transmitter for modem (microprocessor project)</p> <p>Room controller with FPGA (FPGA project),</p> <p>Robot programming for Volt-lab, Verilog, Fault tolerant course project</p> <p>Pipeline simulator (c++),advanced computer project</p> <p>8254 Timer (VHDL) Microprocessor projects</p> <p>Some other PC Peripherals (VHDL)</p> <p>A Superscalar re-architecture Z80 Microprocessor (Verilog)</p> <p>A Video Compression Simulation Tool (MATLAB)</p> <p>Block based Motion compensation (MATLAB) Video course project</p> <p>Error concealment (MATLAB) Video course project</p> <p>Block matching motion estimation (MATLAB) Video course project</p> <p>...</p>
Skills	
Computer Programming	C/C++,HTML, Assembly, , Linux Kernel & System Programming, Linux X development, Real time programming
Hardware Programming	Verilog and VHDL
Operating Systems	Linux, Windows, DOS, Embedded Linux and RTAI
Network utils	Ether Scan Analyzer , Packet Analyzer
CAD Tools & Utils	ModelSim, Leonardo Spectrum, Tanner EDA L-Edit, Star H-SPICE, MAXPLUS+ II, PSpice, MATLAB, ORCAD ,PROTELL, Electronic work bench,
Platforms	X86, MOTOROLA, ARM
Standards	RTP,RTSP,RTCP, ISDN, ATM, TCP/IP,IEEE 802.11b, IEEE 802.16, DVB-H, ITU-T BT.656, ITU-T Bt.601, ITU-T BT.1305, SMPTE 259M
Publications	
Thesis	<p>Abbas Javadtalab, "Research and analysis on arithmetic and logic operator on high speed mode (current mode)" B.Sc. Thesis, Azad University of ARAK. (In Persian),2002</p> <p>Abbas Javadtalab, "Proxy caching for Video on demand over the internet" M.Sc. Thesis, Sharif University of Technology,2005</p>
Technical Reports	
	<p>Abbas Javadtalab. "An Overview of Digital video Broadcasting Methods" Seminar Report, Sharif University of Technology, 2004.</p> <p>Abbas Javadtalab. "An Overview on ITU-R-BT.656 and SMPTE-259M Standard" in Persian, Fanamoj Corp, 2007.</p> <p>Abbas Javadtalab. "An Overview on ITU-T-BT.1305 ,Digital audio and</p>

auxiliary data as ancillary data signals in interfaces conforming to recommendation ITU-R BT.656 and ITU-R BT.799.” in Persian, Fanamoj Corp,2007

Presentations and Invited Talks

Abbas Javadtalab, "Overview of the H. 264/AVC video coding standard with respect to DVB-H technology" Fanamoj Corp, 2007.

Abbas Javadtalab, "Video on Demand Usage in Accounting and eGovernment", Computer workshop on Islamic Azad university of Hamadan, 2005.

Abbas Javadtalab. "Overview of Matlab and its usage in analyzing in Signal and system application " Matlab workshop Sharif University of Technology, 2004.

Abbas Javadtalab, 'IEEE 802.11b High Rate Wireless Local Area Networks', Advanced network presentation, Sharif University of Technology, 2004

Paper

1. **A.Javadtalab**, H. R. Rabiee, M. Omidyegane, M. Ghanbari, "A New Technique to Increase the Proxy Caching Performance in VoD Systems," in proceedings of the IEEE International Symposium on Broadband Multimedia Systems and Broadcasting 2007 (IEEE Broadband Multimedia 2007), Orlando, Florida, USA, March 2007.

2. M. Omidyeganeh, R. Azmi ,K. Nayebi, , **A. Javadtalab** ,”A New Method to Improve Multi Font Farsi/Arabic Character Segmentation Results: Using Extra Classes of Some Character Combinations”, , Multimedia Modeling Conferecne, Nanyang Technological University, Singapore MMM2007.(paper ID=197).

3. A.Patooghy, S. Gh. Miremadi, **A. Javadtalab**, M. Fazeli, N. Farazmand, "A solution to Single Point of Failure Using Distributed Voting", The 2nd IEEE International Symposium on Dependable, Autonomic and Secure Computing (DASC'06), Indiana University, Purdue University, Indianapolis, USA September 29-October 1, 2006.

4. M. Omidyeganeh, K. Nayebi, R. Azmi, **A. Javadtalab**, “ A New Segmentation Technique for Multi Font Farsi/Arabic Texts”, Acoustics, Speech, and Signal Processing, 2005. Proceedings. (ICASSP2005). IEEE International Conference , Volume 2, (2005), pp.757 – 760.

Abbas Javadtalab, A. Patooghy, S. Miremadi, M. Omidyeganeh , “ Distributed Voting for Tolerating Errors in TMR" (In Persian) in CSRCC 2005.

Awards and Honors

Ranked in 2 percent of top students among all M. Sc. in computer system architecture major and Ranked to the 5 percent of top students among all of the M.Sc computer engineering department of Sharif University of Technology, 2004.

Earned the 1st and 2nd top marks in 6 of 8 graduate courses.

Ranked The 10 percent of top student at Natural science in the high school period.

Ranked 60th among more than 10,000 graduate applicants in the Iranian Nationwide Graduate University Entrance Exams (Arshad Konkoor), 2002.

References

Shervin Shirmohammadi, Associate proffesor in School of information technology, University of Ottawa, Ottawa, Canada

Hamid R. Rabiee, Associate Professor in Department of Computer Engineering and Director of Advanced Information and Communication

Center, Sharif University of Technology, rabiee@sharif.edu
Mohammad Ghanbari, Professor in the Department of Electronic Systems
Engineering at [University of Essex, England](http://www.essex.ac.uk). He is a Fellow of IEEE,
Fellow of IEE and Chartered Engineer (CEng), ghan@essex.ac.uk.
M.T. Manzuri-Shalmani, Associate Professor in Department of Computer
Engineering Sharif University of Technology, manzuri@sharif.edu
Keyvan Navi Assistant Professor in Department of Computer and
Electrical engineering Shahid Beheshti University
Seyed-Ghassem Miremadi, Professor in Department of Computer
Engineering Sharif University of Technology, miremadi@sharif.edu
Nozar Tabrizi, Associate professor in Electrical and Computer Engineering
kettering university ntabrizi@kettering.edu
Mr Hanny: the dean of computer group in Qom university
<http://www.qom.ac.ir/Per/AC/engeen/computer.html>
Rohollah Dianat, PHD student in Department of Computer Engineering
Sharif University of Technology.
Additional information is available upon request
