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Arif M. Bhatti

OBJECTIVE Learn and explore computer technology by research, and share the findings and new techniques by publishing. Knowledge and technology transfer to next generation by teaching.

CITIZENSHIP Canadian / Pakistani

INTERESTS

Mobility & Multi-modal User Experience	Scalable and Parallel Systems
Databases & Computer Networks	Wireless technologies
Online Learning Technologies	Internet Security

EDUCATION

Ph.D. in Computer Science
1991 – Jan 1998 **Boston University** **Boston, MA**
Design and Evaluation of Shared Memory for Workstation Networks. Dramatic improvement in network speeds presents an opportunity to increase the domain of applications for network of workstations (NOW). Special importance of NOWs for parallel computing stems from economy of their scale. Goal of this research was to evaluate existing shared memory protocols and design new ones most suitable for next generation of high-speed networks.

Masters Degree in Computer Science
1988 – 1990 **Boston University** **Boston, MA**
 Research focused on Semantic Query Optimization for database systems.

Masters Degree in Computer Science
1985 – 1987 **Quaid-i-Azam University** **Islamabad, Pakistan**
 Master's project: Accounting Information System for Overseas Pakistanis Foundation, Pakistan

PROFESSIONAL EXPERIENCE

Assistant Professor
Jan 2002 – June 2005 **Zayed University** **Abu Dhabi, UAE**
 In addition to teaching and research, I actively participated in the curriculum development and revision activities. Took a leading role in the development of college labs and wrote multiple proposals to acquire hardware, software and network connectivity to develop a technology-mediated learning environment. Taught courses in following areas of CS / IS: Computer Programming and Problem Solving, Data Communication and Computer Networks, Computer Architecture and Operating Systems, and Web Application Development, Database Systems and Computer Graphics.

Oct 1998 – June 2001 **724 Solutions Inc.** **Toronto, Ontario**

Manager Technology Research **Aug 2000 – June 2001**
 Managed Advanced Technology Center team, an R&D group, and lead multiple research projects related to voice technology, multi-modal user experience and biometric initiatives. Provided thought leadership and initiated research in multi-modal user experience. Supported CTO group in understanding technical issues involved in formulation of voice and multi-modal strategy. Worked with wireless technologies such as WAP and Bluetooth. Managed, developed and demonstrated integration of voice recognition and voice authentication technologies with 724 FSP. Performed technology assessments and prepared demonstrable artifacts in line with company's vision.
Technologies and languages: Nuance Voice Recognition and Biometrics technology, VoiceXML, C/C++, Java, Java Servlets, Nuance Speech Objects, Chillisoft ASP & VBScript for Linux, Java Server Pages, Scalable Vector Graphics (SVG), SMIL, JavaScript, Oracle, and Apache Web Server.

**PROFESSIONAL
EXPERIENCE**

Senior Software Architect

Dec 1999 – Jul 2000

Performed technology assessment of wireless, security and financial alert products. Evaluated and accessed the impact of innovative technologies on architecture of 724 Solutions' Financial Services Platform (FSP). Participated in technical discussions and worked with partner companies to evaluate and integrate their technology into 724 FSP. Integrated public key infrastructure (PKI) security technologies from Sonera and Ericsson into 724 FSP. Performed technical due-diligence on potential accusations. Performed architecture assessment of EZLogin, a web scrapping company acquired by 724 Solutions Inc. Delivered technical papers on Funge technology that converts a GSM phone into a Smart Card reader and other related technologies. Evaluated FIX protocol and EZLogin architecture for integration with 724 FSP. **Technologies and languages:** C/C++, Java, MSMQ, Netscape LDAP directory server, Java Servlets, Visibroker Corba, Oracle, HDML, WML, HTML and NT Platform.

Senior Software Engineer

Oct 1998 – Nov 1999

Participated in design and development of Channel Server, a core component in 724 Solutions' Financial Services Platform (FSP). Channel Server handles security, business logic, rendering and command interpretation for financial transactions. Channel Server uses industry standard OFX protocol to communicate with backend servers. Delivers financial & other contents on a variety of wireless and wired devices. Worked with wireless technologies and devices to create demos for the management and the marketing. **Technologies and languages:** C/C++, Java, HDML, WML, PUML, HTML, XML, XSL, OFX, and Rational Rose for UML.

Senior Software Engineer

Aug 1997 – Sep 1998

Continuum Software Inc

Woburn, MA

Participated in design and development of **Bookmarks2Go**, which allows users to store their bookmarks and lets them retrieve these bookmarks from anywhere. Designed and implemented a fault-tolerant database to ensure the availability of stored data. This component is based on MS SQL server, ActiveX Data Objects (ADO), Distributed Transaction Co-coordinator (DTC) and Microsoft Transaction Server (MTS) technologies. Implemented and used database stored procedures to update live database, update a Journal and create a backup database from the Journal. Also participated in design and implementation of an authoring tool to be used by third-party customers to customize Bookmarks2Go interface

Evaluated **Multiply**, a wizard to parallelize existing serial applications. Analyzed the performance of the runtime system on multiple Unix and Window NT systems. Proposed and implemented new functionality. Performed ORACLE DBA's duties to evaluate Multiply's interaction with database applications. Implemented Client-Server functionality in the Runtime System. Ported Multiply based applications on Window NT 4.0 and did performance analysis.

Instructor

1993 – 1997

Boston University, Computer Science Dept.

Boston, MA

Taught graduate and under-graduate courses: Computer Networks, Data Structures using C/C++, Programming in C/C++ language, and Introduction to Computer Science. Class sizes were between 25-150 students.

QA Consultant

Feb 1996 – Sep 1996

Centerline Software Inc.

Cambridge, MA

Worked on **QC/Advantage**, a GUI test-automation tool for C/C++ program development environment, and assisted development team in preparation and execution of test plans to ensure product correctness and reliability. QC/Advantage's target platforms were HP-UX, Solaris 2.x and SunOS.

Senior Software Consultant

1992 – 1995

Boston University, Information Technology

Boston, MA

Assisted BU's students and faculty with applications and development software on SunOS, Solaris 2.x, AIX and IRIX operating systems. Provided consulting for Windows and Macintosh applications. Served as student system administrator in department of computer science and managed approximately 40 *SPARC workstations* (running Solaris/BSD) and 34 *Mac's*.

Teaching Assistant

Spring 1991 – Fall 1992 Boston University, MET College

Boston, MA

Assisted graduate students and instructors in following computer science courses: Artificial Intelligence, Database Management Systems, and Natural Language Processing.

COMPUTER SKILLS

Operating Systems	Window NT 4.0/2000, Unix BSD, Solaris 2.x, AIX, IRIX, Linux, MSDOS, Windows 3.11/95/98/XP, DEC OSF 1, HP-UX
Database Systems	MySQL, MS SQL Server, Oracle, INGRES, FileMaker Pro, Access, and dBase IV
Languages	C/C++, Java, Pascal, Cobol, Lisp, Basic, SQL, Oracle's Pro*C
WWW	Active Server Pages (ASP), VBScript, JavaScript, CGI, HTML, WAP, WML, HDML, VoiceXML 1.0, PHP
MS Technologies	ActiveX Data Objects (ADO), COM/DCOM, MTS, DTC, Visual InterDev, Visual Basic, Visual C++, Internet Information Server (IIS)
Others	Unix utilities (awk, sed, vi), Shell Scripts, PERL, SQL Stored Procedures

REFEREED PUBLICATIONS

- Arif Bhatti and Miroslaw Majewski, “*Infrastructure for Mobile Learning Environments*” In the 2004 International Conference on Information and Knowledge Engineering, Las Vegas, Nevada, USA, June 21-24, 2004.
- Arif Bhatti and Miroslaw Majewski, “*Seeing is Believing: A Survey of Technology for Educational Visualization in Mathematics*” In the CASTME Conference, Cyprus, April 2004.
- Arif Bhatti and Miroslaw Majewski, “*Visualization Technologies for Online Mathematics*” In the Second UAE-Math-Day Conference, Sharjha UAE, April 2004.
- Zakaria Maamar, Hamdi Yahyaoui, Wathiq Mansoor, and Arif Bhatti, “*Towards and environment of mobile services: Architecture and security*” In the International Conference on Information Systems and Engineering, Montreal Canada, July 2003.
- Arif Bhatti and Miroslaw Majewski, *Using MuPAD and MCS to Develop an Online Course for Quantitative Sciences* – to be published in the international journal Innovations in Teaching and Learning in Information and Computer Sciences.
- Arif Bhatti and Miroslaw Majewski, *MuPAD Computing Server Demystified*, MathPAD, the Journal of the MuPAD Research Group, Issue 2003 vol. 1.
- Arif Bhatti, “*SNOW: A Stateless Low-Overhead All-Software Distributed Shared Memory System*” In 11th Annual International Symposium on High Performance Computing Systems (HPCS97), Winnipeg, Canada. July10-12, 1997.
- Arif M. Bhatti, “*Data Block Size, Software Access Control and Release Consistent Distributed Shared Memory System*” In International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'97), Las Vegas. June 30, 1997.
- Arif M. Bhatti, “*Evaluation of All-Software Conventional Distributed Shared Memory on NOWs based on High-Speed Networks*” In Proceedings of Cluster Computing Conference, Atlanta, GA. March 10-12, 1997.

**UN-REFEREED
PUBLICATIONS**

- Arif M. Bhatti and Sulaiman A. Mirdad, “ *Design of Mermera Shared Memory Manager*”, Boston University Department of Computer Science, September 1994.
- Arif M. Bhatti, “ *Mermera Internals and User Guide*”, Boston University Department of Computer Science, September 1994.
- Arif M. Bhatti and Sulaiman A. Mirdad, “*QASID: A communication layer for Parallel Programs on NOWs*”, Boston University Department of Computer Science, June 1994.
- Arif M. Bhatti, Carlos R. Cunha, and Sulaiman A. Mirdad, “*Simulation Analysis of Delays in AIDA Scheme*”, Boston University Department of Computer Science, July 1993.

**RESEARCH
FUNDING**

- Technologies for Online Education, research project sponsored by Zayed University
- Biometrics Security Platform for e-Applications, research project sponsored by Zayed University

**RESEARCH
PAPER REVIEW**

- The 2nd IEEE Symposium on Computers and Communications 1997.
- International Workshop on Ubiquitous Computing (IWUC 2004), 2004 - Porto, Portugal
- International Journal of Pervasive Computing and Communications

**PROFESSIONAL
MEMBERSHIP**

- Association for Computing Machinery (ACM).
- IEEE Computer Society

LANGUAGES

- Fluent in English, Urdu, Punjabi

THESIS ADVISOR

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REFERENCES

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