Masum H. Serazi

44 Royal Dr, Apt# 102, Piscataway, NJ 08854, Ph. (732)-593-8714 (W), (732) 968-2169 (R)
Email: masum.serazi@ask.com

SUMMARY:

- Computer Science M.S. and Ph.D. from North Dakota State University (area in expertise: data mining, information retrieval, database, and software engineering)
- Over 6 years of experience in designing and developing both standalone and web applications using C/C++, Java, and other languages in industry and education in both Linux and Windows platform.
- Experience in managing and leading software development groups and extensive experience in testing and debugging.
- Excellent knowledge in developing J2EE projects.
- Solid background in Web Services, WSDL, SOAP, and RSS.
- Robust knowledge in using IBM WebSphere platform.
- Several years of experience using version control system, for example, CVS and SVN.
- Developed data mining, machine learning, and statistical tools, APIs, and Web Services for DataSURG research group at NDSU.
- Strong background in designing and developing databases on different DBMS.

TECHNICAL SKILLS:

Languages	C/C++, Java, and C#
API	C++ STL, MFC, JFC, GDI, GDI+, DirectX, libxml2, boost C++ library, MPI, etc.
Technologies	TCP/IP, Client-Server Applications, Multi-processor Inter-process Communication Schemes (Shared Memory, Unix Sockets, Unix IPC), MPI (Message Passing Interface), J2EE(JSP, JSF, Servlet, EJB, JMS, JNDI, etc.), and Microsoft .Net
Operating System	Linux (Red Hat, FreeBSD, Debian), Windows NT/2000/XP/2003 Server
RDBMS and Drivers	DB2, Oracle, PostgreSQL, MySQL, MS SQL 2000 Server, MS Access, SQL, ODBC, JDBC, ADO.NET
Web/Script	JSP, PHP, ASP.NET, DHTML, XML (SAX and DOM), Perl, Java Script, Shell Script, CSS, RSS, WSDL, and SOAP.
RAD IDE	IBM Rational Software Development Environment, IBM Eclipse, BEA WebLogic Workshop, NetBeans, Microsoft Studio.Net,
Application Server	IBM WebSphere, JBoss, Sun Java System Application Server, BEA WebLogic
Version Control System	CVS and SVN

EXPERIENCE:

Sr. Software Engineer - Relevancy Analyst, Ask Inc. (IAC Search & Media), 343 Thornell Ave, Edison, NJ 08837, October 2005 - Present.

Develop algorithms and heuristics to classify/cluster a large scale data using information retrieval knowledge. Develop efficient production-level programs and implement algorithms in proof-of-concept. This involves implementing advanced computer algorithms/heuristics for Internet search and web data analysis using data-mining technology, improving relevance of search results, and scaling up algorithms to immense volumes of web data with statistic analysis. Develop software utilities for monitoring and analyzing any web-related clustering/classification results and investigation using statistics algorithms.

Chief Programmer Analyst, Computer Science Department, NDSU, Fargo, ND 58105. August 2001 – September 2005

Coordinating and leading a 14 people group to develop:

- **DataMIME™**: DataMIME™ (Data: Mine It More Efficiently) is a 'universal' data mining system developed by the DataSURG research group at North Dakota State University. DataMIME™ provides a suite of data mining applications over the Internet for the tasks of association rule mining, classification, and the like. Java had been selected for client side GUI and C++ in the server side. Socket was used as the main media of communication and XML for sending meta-data from client to server.
- **DataMIME™ Web Service:** The main goal of the project is to provide services to the clients for sending data mining request and getting the response so that they can manipulate the result in their own way. For example, user might want to display the result in his own application or writes a new algorithm that needs the data as input. We are using NetBeans 4.1, J2EE 1.4, and Sun System Application Server.
- **Ptree API 1 and 2:** An API for accessing and manipulating vertical data structure. This is the core API for server side in the DataMIME™. We adopted C++ as the principal programming language and MPI for parallelization.
- **SMILEY (Signature Miner & Interface Language for Earth-data, Yet-another):** SMILEY is a powerful on-line spatial data analyzer and viewer. It provides a general interface through the World Wide Web using Internet technology to access, display and analyze various sets of spatial data (TM, D.P., SPOT, AVHRR, Agricultural Yield Maps, Demographic data, and many more data formats). Both client and server user Java as the main programming language. Intensive GUI programming was involved in this project for editing and displaying images.
- **Bison Array:** Bison Array is a micro-array analysis tool. It reads standard FASTA file and able to apply different data mining and statistical tools (Bayesian and k-nearest neighbor classification, SVM, etc.). Bison array can also present a gene-gene interaction map in a graphical view for further analysis of gene data. In this project we have used Java (swing: JFrame, JInternalFrame, Graphics, JTree, JTable) as programming language and NetBeans IDE, especially as GUI editor.

Software Project Manager, AIWS Developer Group, ITS, North Dakota State University May 2004 – September 2005

Leading different AIWS groups to develop people-friendly software that offers end-to-end solutions and services for emerging products in the university, eBusiness and research sectors.

Project Completed:

1. Psychology experiment simulator (C++.Net, GDI+, libxml2, XML): Psychology experiment simulator displays different images and text on the screen and log the response through joystick and microphone. The whole experiment can be customized through a configuration file, an xml file.
2. It's Happening Today at NDSU (JSP, Servlet, EJB, DB2): An AAA compliant, highly configurable news, articles, and event publishing website published by NDSU (http://www.ndsu.edu/news/).
3. News and Articles at Tri-College (HTML, PHP, MySQL, XML): This is same as the previous project except it was written in different platform.

Teaching Assistant, Department of Computer Science, NDSU, Fargo, ND 58105. August 2004 – December 2004

Teaching CSCI 159 (Computer Science Problem Solving), an introductory level of computer science course that gives an overall idea from hardware to software and discusses how computers are used for solving problems efficiently as well.

Software Engineer, Motorola Inc. 1501 Shure Dr. Arlington Hts. IL 60004. February 2001 – March 2001

Responsibilities Includes: Designing and developing a Report Generating Tool for GTSS Metrics by using Brio Designer, JavaScript, and Oracle in a group of nine members.

Research Assistant, Department of Computer Science, NDSU, Fargo, ND 58105. August 1999 – December 2001

Designing and developing visualization tools for a graduate course. The course was taught by Dr. Paul Juell. We have used VRML, C++, and Java.

EDUCATION:

- **Ph.D. in Computer Science**, Department of Computer Science, North Dakota State University, December 2005. Thesis title: A Super Max Benchmark for Data Mining by Vertically Structuring Data, under the supervision of Dr. William Perrizo.
- **Master of Science in Computer Science**, North Dakota State University. December 2001
- **Bachelor of Science in Mechanical Engineering**, Bangladesh University of Engineering and Technology. May 1996

PUBLICATIONS:

[1] Masum Serazi, Amal Perera, Taufik Abidin, and William Perrizo. *An API for Transparent Distributed Vertical Data Mining.* In Proceeding of the 14th International Conference on Intelligent and Adaptive Systems and Software Engineering (IASSE-05), July 20-22, Toronto, Canada. To Appear.

[2] Masum Serazi, Amal Perera, Qiang Ding, Vasiliy Malakhov, and William Perrizo. *A Multi-layered Framework for Distributed Data Mining.* 13th International Conference on Intelligent and Adaptive Systems and Software Engineering, 2004. Niece, France.

[3] Masum Serazi, Amal Perera, Qiang Ding, Vasily Malakhov, Imad Rahal, Fei Pan, Dongmei Ren, Weihua Wu, and William Perrizo. *DataMIME™*. SIGMOD 2004, Paris, France.

[4] T. Abidin, A. Perera, M. Serazi, and W. Perrizo. Vertical Approach to Computing Total Variation. To appear in the International Journal of Computers and their Applications (IJCA), vol. 3(5), June 2006.

[5] Amal Perera, Taufik Abidin, Masum Serazi, and William Perrizo. Vertical Set Square Distance Based Clustering without Prior Knowledge of K. In Proceeding of the 14th International Conference on Intelligent and Adaptive Systems and Software Engineering (IASSE-05), July 20-22, Toronto, Canada.

[6] Taufik Abidin, Amal Perera, Masum Serazi, William Perrizo. *Vertical Set Square Distance: A Fast and Scalable Technique to Compute Total Variation in Large Datasets*. CATA'05, March 16-18, 2005, New Orleans, Louisiana, USA.

[7] A. Perera, M. Serazi, W. Perrizo, *Performance Improvement for Bayesian Classification with Ptrees*, CAINE'02, San Diego, Nov. 2002.

[8] Data Mining for Prediction of Genes Associated with a given Biological Function, Denton, A., Perera, A., Kotala, P., Serazi, M., Rahal, I., and Perrizo, W. DMKD 03

BOOK CHAPTER

- "Vertical Database Design for Scalable Data Mining", *William Perrizo, Qiang Ding, Masum Serazi, Taufik Abidin, and Baoying Wang* "Encyclopedia of Database Technologies and Applications", Laura C. Rivero et al (editors), Idea Group Reference (publisher), Hershey, Pennsylvania, April 2005.

EXTRA CURRICULAM ACTIVITIES

- Local Co-Chair, Fourth Virtual Conference on Genomics and Bioinformatics, 2004, Fargo, ND 58105
- President, Bangladeshi Student Organization (BSO)- NDSU, 2004-2005
- PRO, Bangladeshi Student Organization (BSO)- NDSU, 2000-2001
- Debate Secretary, Shahid Smrity Hall, BUET, Dhaka, Bangladesh. 1993 - 1994
- President, P. C. Science Club, Bagerhat, Bangladesh, 1988 - 1989

REFERENCES

- Wei Wang, Development Manager, IAC Media & Search
  Phone: 732-907-3010
  Email: wwang@ask.com

- Dr. James B. Ross, Director, IT Application Services, Information Technology Services, North Dakota State University
  Phone: 701-231-9722
  Email: james.ross@ndsu.edu
- Dr. Kendall Nygard, Professor and Chair, Department of Computer Science, North Dakota State University NDSU
  Phone: 701-231-8203
  Email: kendall.nygard@ndsu.edu
- Dr. William Perrizo, Professor , Department of Computer Science, North Dakota State University NDSU
  Phone: 701-231-7148
  Email: william.perrizo@ndsu.edu