

Ali Afzal Malik

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Objective

A doctoral degree in software engineering enabling me to explore solutions to emerging problems in this dynamic field.

Education and Qualifications

University of Southern California (USC), USA Aug 2007 - Present
Student: PhD Computer Science
Research Area: Software Sizing

University of Southern California (USC), USA May 2007
MS in Computer Science (**GPA: 4.0**)
Specialization: Software Engineering

Lahore University of Management Sciences (LUMS), Pakistan Dec 2003
Bachelor of Science (Honors) (**CGPA: 3.92**)
Major: Computer Science (**GPA: 4.0**)
Minor: Mathematics, and Economics

Honors and Awards

- Fulbright/HEC/USAID Scholarship 2007-2010
- Phi Kappa Phi Honor Society Membership 2007
- USC OIS Academic Achievement Award 2007
- Fulbright Scholarship 2005-2007
- Dean's Honors List – BSc (Hon.) Program 2003

Professional Experience

USC Computer Science Department – Teaching Assistant Aug 2007 – Present

- *Software Management and Economics (Professor Barry Boehm)*

USC Computer Science Department – Grader Sep – Dec 2006

- *Software Management and Economics (Professor Barry Boehm)*

Open Source Strategies, Los Angeles, CA – Summer Intern May – June
2006

Worked on the customization of OFBiz and Open Taps – open source suites of Enterprise Resource Planning (ERP) modules. Tasks included revisions and testing of existing features, enhancement of sub-modules, and documentation of operating procedures.

USC Center For Software Engineering (CSE) – Intern Jan – May
2006

Worked on the database implementation of COINCOMO (Constructive Integrated COCOMO) – a part of the suite of tools being used for software cost estimation. Apart from COCOMO (Constructive Cost Model) it encompasses COPSEMO (Constructive Phased Schedule and Effort Model) which deals with the distribution of effort and schedule in different software development life cycle phases.

Techlogix Pakistan (Pvt.) Limited - Software Engineer April 2003
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July 2005

- Lead a small team implementing a portion of the Purchasing and Inventory (P&I) module of an ERP application in Java using Oracle JBuilder
- Scoped, analyzed, designed, and implemented the automation to support the business processes of the P&I module
- Conducted business process-flow testing and managed defects via Test Track Pro
- Interacted with client and provided customer support
- Designed P&I database using ERWin
- Developed reports in Oracle Report Builder
- Implemented 'Invoice Matching' - an interface with Financials module

Lahore University of Management Sciences (LUMS) - Teaching Assistant August
2002
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February
2003

- *Advanced Topics in Computer Systems*
(Nov - Feb)
- *Introduction to Artificial Intelligence* (Aug - Nov)

Delivered tutorials, evaluated research paper presentations, formulated and graded quizzes and assignments, developed and maintained course web site, and conducted labs.

Organization for Human Resource Development (OHRD) – Intern Jul-Aug
2000

- Assisted in proposal formulation
- Designed a database for storing official records

Projects

Open Source XML Parser-Based CodeCount Tool (USC CSE) – Project Manager

Built an application for counting physical and logical XML source lines of code (SLOC). Used Xerces-C++ open source parser to obtain XML-specific information such as number of first-level simple and complex elements. Statistics about the input XML files were output in text and CSV formats. This application was deployed on both Windows and UNIX platforms. Northrop Grumman Mission Systems, The Aerospace Corporation, and USC Center for Software Engineering were the clients of this project.

Enterprise Resource Planning (Techlogix)

Built an ERP application using the Model View Controller (MVC) design pattern. Applets employing Swing and Infragistics® components constitute the View layer. The Controller layer comprises a servlet and a handler. Business logic is coded in Session Beans whereas data residing in an Oracle database is accessed using Data Access Objects. Oracle 10g Application Server was used for hosting this ERP application.

Worked on the Invoice Matching module of the ERP. The interface of this module was provided in Oracle Financials to facilitate Accounts Payable users in matching suppliers' invoices with actual receipts.

Developed reports using Oracle's Report Builder to facilitate top management of our client. These reports were fully integrated with the ERP application.

Senior Project

Built a secure Test Manager *Web Service* using the .Net architecture. The business logic of the *web service* was coded in C# whereas VB.Net was used in developing the *Web Service* client. The application was secured at multiple levels: SSL was used on the wire, denial-of-service attacks were prevented, and RC2-encrypted data was used for communication.

Test Manager is designed to automate the process of formulating, taking, and evaluating tests thus facilitating both students and instructors. It allows instructors to register questions by specifying certain attributes e.g. difficulty level, average time for completion, weight, visibility (public/private) etc. The test formulation algorithm later utilizes the values of these attributes in designing an online test according to the rules set by the instructor.

Special Skills

- Languages: Java, C++, VB, HTML, VBScript, SQL
- Applications: JDeveloper, JBuilder, Eclipse, MS Visual Studio, Oracle Report Builder, Oracle 10g AS, TOAD, Rational Rose, ERWin, Test Track Pro, QaTraq, JTest, MS Project, MS Visual Source Safe, COCOMO
- Technologies: Enterprise Java Beans, .Net Web Services, Active Server Pages