

Junqiang Zhou

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PROFILE

- Excellent knowledge of Software Engineering, Algorithms, Programming, Database and Testing.
- Good problem solving expertise. Able to work effectively as part of team or independently.
- Solid work ethic; excel under pressure, especially in deadline-driven environments.
- Excellent management and communication skills.

EDUCATION

<i>Ph.D.</i> , Computer Science, The University of Texas at Dallas, Richardson, TX	Expected May 2008
<i>M.S.</i> , Computer Science, The University of Texas at Dallas, Richardson, TX	August 2006
<i>B.S.</i> , Chemistry, China Agricultural University, Beijing, China	June 2001

SKILLS

Languages & Tools: ANSI C/C++, C#, Java, J2EE, JDBC, JavaScript, Visual Basic, PL/SQL, Perl, PHP, ASP, JSP, Ruby, OpenGL, OpenCV, XML, HTML, MPI, LaTeX, Matlab.
Operating Systems: UNIX, Linux, Windows95/98/ME/2000/XP, Mac OS
Database: Oracle, MySQL, SQL Server
Networking: Unix Socket Programming, TCP/IP

PROFESSIONAL EXPERIENCE

Research Assistant (in Software Quality Assurance Lab, Multimedia Systems & Networking Lab and Motion Capture Lab), The University of Texas at Dallas **January 2005 - present**

(**Research Interests:** Multimedia Systems, Algorithms, Computer Vision, and Software Testing)

- Designed and implemented novel fault tolerant frameworks for video surveillance systems, which is integrated from various techniques, e.g., video processing, image processing, computer vision, graph theory, computational geometry and object oriented design & programming.
- Solved optimization problems in optical motion capture (reduced data gaps by 40%).
- Designed efficient algorithms and studied computational complexity of several geometric problems (saved at least 33.3% number of guards which ensure the city security).

Teaching Assistant, The University of Texas at Dallas **August 2004 - January 2005**

(**Courses:** Software Testing, Verification, Validation and Quality Assurance, Object-Oriented Analysis & Design)

- Gave lectures in graduate level courses, designed projects, graded assignments and tutored in lab sessions.

System Administrator, China Agricultural University **January 1999 - May 2001**

- Hardware and software maintenance, and troubleshooting.

SELECTED PUBLICATIONS

- **J. Zhou**, S. Ntafos and B. Prabhakaran “Fault Detection Framework for Video Surveillance Systems”, The Proceeding of IEEE Conference on Advanced Video and Signal Based Surveillance, 2008
- **J. Zhou**, S. Ntafos and B. Prabhakaran “Robust Camera Placement for Video Surveillance Systems”, to be submitted
- L. Bao, S. Bereg, O. Daescu, S. Ntafos and **J. Zhou** “On Some City Guarding Problems”, The Proceeding of The 14th Annual International Computing and Combinatorics Conference, 2008
- **J. Zhou** and S. Ntafos, “Two-Guard Art Gallery Problem”, The Proceeding of Canadian Conference on Computational Geometry, 2006

SELECTED PROFESSIONAL PROJECTS

- **Fault Detection Framework for Video Surveillance Systems (individual project):**
Incorporated this framework with Surveillance systems to automatically detect and isolate faulty cameras without using additional hardware devices. The implementation highly involved OpenCV, C/C++, OOAD.
- **Automatic Source Code Converter for VB and Java (team project):**
A software automatically converting Visual Basic source code for GUI layout into Java source code, which produces identical interfaces.
- **Robust Camera Placement for Video Surveillance (individual project):**
Designed an efficient algorithm to achieve good fault tolerance and coverage for video surveillance systems.
- **Guarding Algorithms and Complexity (team project):**
Devised efficient algorithms for various guarding problems, and analyzed their computational complexities. Mathematically proved bounds for the number of necessary guards/cameras.
- **Reducing Gaps in Motion Capture Data (team project):**
Reduce the gaps (mainly caused by obstruction) by 40% in Motion Capture data by applying a new algorithm.

SELECTED COURSE PROJECTS

- **GUI Console Software for Remote Oracle Database (individual project):**
Implemented a relational database for student records using PL/SQL. Designed and coded a GUI software to access and control this remote Oracle database. It involved JDBC, Java, Oracle, PL/SQL.
- **Advanced Operating System (team project):**
Designed and implemented concurrency control among multiple servers in a distributed system. Emulated a multi-thread message exchanging system using Java Socket programming with 12 Linux machines.
- **Multicast Protocol on Unix Machines (individual project):**
Implemented a multi-cast protocol using C++, and tested it with 20 Unix machines.
- **Implementation of Biological Sequence Algorithms (individual project):**
Analyzed and implemented several string processing algorithms in order to make DNA/RNA sequence analysis, and compared their speeds and effectiveness.

ADVANCED COURSES TAKEN

Advanced Operating Systems, Advanced Database, Advanced Computer Networks, Approximation Algorithms, Computational Geometry, Network Programming, Computational Biology, Computer Graphics, Parallel Computing.