

# RIZWAN AHMAD KHAN

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## EDUCATION

- **University of Southern California**—Los Angeles, California  
*MS Computer Science*
  - GPA: 3.78 (overall) *Projected Graduation Date: May, 2008*
  - Major Courses: Computer Animation and Simulation, Machine Learning, Web Technologies, Computer Algorithms, Numerical Analysis, Introduction to Robotics.
- **GIK Institute of Engineering Sciences and Technology**—Topi, Pakistan  
*BS Computer System Engineering*
  - GPA: 3.33 (overall) 3.50 (CS majors) *Graduation Date: May, 2003*
  - Major Courses: Artificial Neural Networks, ASIC Design, Parallel Processing, Computer Graphics, Databases, Software Project Management, Software Engineering.

## RESEARCH PUBLICATIONS

- **Rizwan A. Khan, Aasim Qureshi, Saqib Saeed, Vision based Navigation for a Mobile Robot with different Fields of View, PAK-US International Symposium on High Capacity Optical Networks and Enabling Technologies, Islamabad, Pakistan, 2005.**

## EXPERIENCE

- **Bahria University, Computer Science Department**—Islamabad, Pakistan  
*Lecturer* *October 05, 2004–August 10, 2006*
  - Taught courses to undergraduate students (Artificial Intelligence, Data Structures).
  - Administered intranet portal for online courses based on Apache, MySQL and PHP.
  - Supervised undergraduate final year projects.
- **GIK Institute of Engineering Sciences and Technology**—Topi, Pakistan  
*Computer Engineer* *July 01, 2003–June 30, 2004*
  - Assisted Artificial Intelligence and Data Structures courses and conducted associated labs.
  - Coordinated undergraduate final year projects.
- **Askari Information Systems**—Islamabad, Pakistan  
*Intern* *May 01, 2002–August 05, 2002*
  - Designed and developed an Add-in for Microsoft Outlook and Share point Portal Server.
  - Made a stand-alone installer for the Add-in which included .NET framework using Wise for Windows Installer.

## ACADEMIC PROJECTS

- **Offline Google Calendar:** *Fall 2007*  
Developed an AJAX based application using Google Gears to add tasks to the Google Calendar offline. It used the Google Calendar APIs to achieve the desired task. *Tool used: Java Servlets, HTML/DHTML, CSS, DOM, XML, SQL*
- **Mortgage Fraud Detection:** *Fall 2007*  
Worked on detecting Mortgage Fraud Detection for IndyMac Bank using different Machine Learning techniques. This project involved detecting patterns which could help to identify different types of frauds automatically. *Tool used: Weka, libsvm*  
<http://rizkhan.googlepages.com/567.pdf>
- **Server Side Scripting in Perl:** *Fall 2007*  
Developed a system using Perl which scrapes the Yahoo! movies website online and provides an easy interface for selection. It autonomously crawls the website for important links and writes an XML file, which is then loaded using HTML providing a convenient user interface. *Tool used: Perl, XML, JavaScript*

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## ACADEMIC PROJECTS (CONTINUED...)

- **Inverse Kinematics System:** Fall 2006  
Designed and implemented the system using Optimization based method in OpenGL through SNOPT solver. It is an interactive real-time system in which user can specify the new IK points and can see the character's motion in real time. Tool used: MS Visual Studio.NET  
<http://csci520.googlepages.com>
- **Search and Rescue using Robots:** Fall 2006  
Designed and Implemented a team of robots using Lego blocks for robotics course project. The tasks to achieve were Vision based navigation, localization and communication between two robots. The team participated in a competition which was held at the end of the semester. Tool used: Java  
(<http://video.google.com/videoplay?docid=-4090989113806140349>)
- **Lan Messenger:** Fall 2002  
Implemented a Lan Messenger to send messages and explore different computers on the network. This was implemented using Socket Programming in Java. It could send private as well as global messages over the local area network. Tool used: Java
- **Evolution of a Neural Controller:** Fall 2002, Spring 2003  
Simulated and transferred onto a real robot a Neural controller which was evolved using Genetic Algorithms for the task of obstacle avoidance in an open environment. It was demonstrated as Undergraduate Final Year Project. Tool used: MS Visual Studio
- **Text to Speech Conversion:** Fall 2001  
Converted Text to Speech using a Neural Network with the ability to learn new words. It could generalise pretty well and used a Neural Network with 2 hidden layers. It provided the user the ability to train a word there and then or specify a whole batch of words together. Tool used: MS Visual Studio
- **Network Traffic Analyser:** Fall 2002  
Developed a tool to monitor traffic on switched as well as hub-based networks in Linux. This consisted of an analyzer which could detect a variety of protocols. Tool used: gcc compiler

## TECHNICAL SKILLS

- **Programming Languages:** C/C++, Java, C#, Visual Basic, Prolog, Perl.
- **Tools and Technologies:** MS Visual Studio, MS Access, MS Office, MS SQL Server, Maya, Poser, Weka, ASP.NET, MATLAB, SNOPT, FLTK, MotionBuilder.
- **Operating Systems:** Linux (Fedora, Ubuntu), Windows 98/2000/XP.

## AWARDS AND ACHIEVEMENTS

- **Fulbright Scholarship Holder** for Masters studies at USC. August 2006
- **Recipient of Merit Scholarship** by Ministry of Science & Technology for undergraduate studies. May 2000
- **Recipient of Gold Medal** for scoring Top position in provincial high school examination, awarded by Board of Intermediate and Secondary Education, Peshawar, NWFP, Pakistan. July 1999

## EXTRA-CURRICULAR ACTIVITIES

- **Executive Member** of Pakistani Students Association at USC. September 2006 - May 2008
- **Executive Member** of GIKI Science Society, GIKI. January 2000 - January 2003
- **Member** of GIKI Table Tennis, Batch Table Tennis and Basketball teams at GIKI. May 2000 - May 2003

## REFERENCES

- Available on request.