

Ahmad Humayun

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Achievements

Software Design Finalist for Microsoft Imagine Cup 2007 Korea. The project on Automated Video Recording of Lectures (AVRIL) was selected to represent Pakistan for the first time in this prestigious invitational.

Amongst the top eighty teams in the **IEEE Computer Systems International Design Competition (CSIDC) 2006.** Lead the team to develop an embedded system for fishermen that can dynamically adapt to an oceanic environment to avoid commercially unviable and environmentally hazardous fish catch.

Cambridge **O Level Distinction in Computer Science**, for the Islamabad Region.

Education

Lahore University of Management Sciences Jul '07
B.Sc. (Hons.). Computer Engineering (Major)

Beaconhouse, Margalla Campus, Islamabad, Pakistan Jun '03
A Levels

Professional Experience

Lahore University of Management Sciences (LUMS) Dec '06 – to date
Research Assistant, Department of Computer Science
Currently building a human motion capture dataset and researching on trajectories for a Computer Vision based activity recognition technique. The research is a collaboration between LUMS and the University of Illinois at Chicago, partly funded by NSF (Award No. 0534438).

Mobile Weaver Mar '08 – to date
Junior Software Developer, Technical Department
Working with this Danish-based company which develops online-portals for independent software vendors to sell software for handheld devices. Currently working on the up-keep of their flag-ship product YouPark.com. Tools: J2EE, XML

NCR Corporation (Pakistan) Jul – Aug '06
Intern, Financial Solutions Department
Introduced an E-Ticketing software built on a proprietary NCR kiosk for Pakistan's largest airline operator, Pakistan International Airlines. This system was developed and debugged on the airline's live booking database. Tools: Microsoft Visual C# .NET
Developed an application library for NCR biometric devices to register, identify and authenticate end users, for use in NCR fingerprint recognition solutions. Tools: BioAPI, MS Visual C# .NET

Major Projects

Improvements in Google's MapReduce Architecture as a *research initiative* (in progress)
Our research group is making efforts to convert MapReduce, Google's data processing architecture, into a truly decentralized computational model. We have also made progress in changing MapReduce to run speculatively: to get a result, requiring little input data, sooner in a computation of tasks of different sizes. Tools: Lucene Hadoop, Java

Automated Video Recording of Lectures as the *senior year project*
Working, as the team lead, to develop a system that automatically records and directs a lecture while capturing the lecture hall environment. The lecturer and the audience are tracked using computer vision and sound localization techniques. The system makes use of multiple cameras and production is achieved using mathematically modelled direction heuristics. (<http://avril.sproj.com>) Tools: OpenCV, .NET Framework

Surveillance Video Compression through Foveation as a *research initiative*
This project involved extensive research for the development of a novel H.264 encoder which allocates more bits to dynamic objects in surveillance videos. The encoding scheme developed worked on the property of foveation / point of gaze in the human visual system. (<http://suraj.lums.edu.pk/~foveation>) Tools: Java Media Framework

Enhanced File Management System as a *Software Engineering course project*
Team Lead for the software project, which enables users to categorize files in a hierarchy of labels, while the system automatically keeps track of any pertinent changes made to the file-system. Tools: ADO .NET, Visual C++ .NET

Interests

Traveling, cycling, solving puzzles and reading (non-fiction)