

# ANKUR KHETRAPAL

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## Education

2004 - 2008 | Bachelor of Engineering (B.E.) in Computer Engineering, Delhi College of Engineering (DCE), University of Delhi. Departmental Rank: 5. Expected Date of Graduation is May 2008. Converted GPA as per WES: 3.96/4.0

## Research Interests

Computer Systems  
Networked Systems  
Mobile and Vehicular Ad hoc Networks  
Information Security

## Research Experience

- Summer 2007* | **Research Intern at Network Labs, Indian Institute of Science (IISc), Bangalore.**  
Implemented policies for service differentiation in an 802.11b network into 802.11e traffic classes for better performance of real-time services like VoIP. Also developed a hybrid testbed, an integration of physical systems into the network simulation for evaluation of **WLAN Manager**.  
Project Homepage - [http://ece.iisc.ernet.in/network\\_labs/wm-paper.pdf](http://ece.iisc.ernet.in/network_labs/wm-paper.pdf)  
Supervisor: Dr. Malati Hegde, Principal Research Scientist, IISc ([malati@ece.iisc.ernet.in](mailto:malati@ece.iisc.ernet.in))  
Prof. Anurag Kumar, Chairman, ECE Department, IISc
- 2006 - 2007* | **Quicksilver Scalable Multicast (QSM), Cornell University**  
Development and testing of content distribution applications over Quicksilver Scalable Multicast (QSM) Protocol, a novel IP multicast protocol developed at Cornell University.  
Project Homepage - <http://www.cs.cornell.edu/projects/quicksilver/QSM/>  
<http://www.ankurkhetrapal.com/projects/qsm.htm>  
Supervisor: Prof. Ken Birman, Cornell University ([ken@cs.cornell.edu](mailto:ken@cs.cornell.edu))
- 2005 - 2007* | **Research Assistant at Center for Advanced Robotics & Intelligent Vehicles, DCE**  
Designed and developed an Unmanned Aerial Vehicle to take part in the International Aerial Robotics Competition (IARC) organized by Association for Unmanned Vehicle Systems International (AUVSI) held at Fort Benning, Georgia, USA. Awarded the **Best Design Innovation Award** for our Quad Propeller Design.  
Project Homepage – <http://www.uavindia.com>  
<http://www.ankurkhetrapal.com/projects/quav.htm>  
Supervisors: Asst. Prof. M. Kulkarni ([mkulkarni@dce.ac.in](mailto:mkulkarni@dce.ac.in))  
Prof. Asok De, Dept. of Information Technology, DCE  
Prof. P. B. Sharma, ex-Principal, DCE
- Winter 2006* | **Project Intern at Embedded Systems Lab, Indian Institute of Technology, Delhi**  
Developed a Software UART for an ARM microcontroller as a part of the project Software components for embedded systems, adapted for real time applications.  
Project Homepage - <http://www.ankurkhetrapal.com/projects/suart.htm>  
Supervisor: Prof. Subrat Kar, Indian Institute of Technology, Delhi ([subrat@ee.iitd.ac.in](mailto:subrat@ee.iitd.ac.in))
- Winter 2005* | **Project Intern at National Informatics Centre, Delhi**  
Designed an on-the-fly configurable Traffic fine record application for Mobile Devices in .NET Environment. Currently in use by the Govt. of Delhi.  
Supervisor: Dr. Ramesh Singh, National Informatics Centre (NIC), Delhi. ([rsingh@nic.in](mailto:rsingh@nic.in))
- Summer 2005* | **Project Trainee at Department of Information Technology, Govt. of India**  
Resolved compatibility issues for State Wide Area Network (SWAN) Project.  
Supervisor: Mr. Vinay Kumar, PwC India ([vinay.kumar@in.pwc.com](mailto:vinay.kumar@in.pwc.com))

## Publications

- 2007 | Anvay Lonkar and Ankur Khetrapal  
*Poster: A bio-inspired approach to distributed certificate revocation in VANETs.* To appear at 26th Annual IEEE Conference on Computer Communications (IEEE Infocom) 2007.
- 2006 | Ankur Khetrapal and Prof. Goldie Gabrani  
*Routing Techniques for Mobile Ad hoc Networks, a qualitative and quantitative analysis.* In proceedings of International Conference of Wireless Networks (ICWN) 2006.

## Technical Reports

- 2006 | *Designing and developing a Quad Rotor Unmanned Aerial Vehicle* submitted for participation in International Aerial Robotics Competition 2006 (IARC) organized by Association for Unmanned Vehicle Systems International (AUVSI)

## Major Projects

### **Sideris – A Peer-to-Peer application based on open standards**

Developed Sideris P2P structure using SOAP for client-server communication. The discovery server (Sideris Galaxy) is exposed as a web service. Developed in C# (.Net 2.0)

Project Homepage - <http://www.ankurkhetrapal.com/projects/sideris.htm>

Supervisor: Mrs. Rajni Jindal, Dept. of Information Technology, DCE ([rajnijindal@dce.ac.in](mailto:rajnijindal@dce.ac.in))

### **Recycle IT – Intelligent waste monitoring system**

Developed a prototype of an intelligent waste monitoring system that can distinguish among materials as well as take into account the non-biodegradable material usage records of a household

Project Report - <http://www.ankurkhetrapal.com/projects/ak-wesc-2006.pdf>

Supervisor: Dr. D. V. Chaure, Dept. of Physics, DCE ([dvchaure@dce.edu](mailto:dvchaure@dce.edu))

## Presentations

- 2007 | *Indian Institute of Science Research Seminar: Presented The Hybrid Testbed*  
2006 | *National Symposium on Instrumentation: Demonstrated Our Quad Rotor UAV*

## Skills

<i>Programming</i>	C, C++, C# (.Net 2.0), PHP, VHDL, ActionScript (Adobe Flash), Javascript, Unix shell scripts
<i>OS</i>	Linux, Windows 98/ME/2000/XP/Vista, Unix
<i>Packages</i>	SQL Server, Latex, MPLab, Keil, Adobe Flex, Adobe Flash
<i>Simulators</i>	NS2, Qualnet
<i>Tools</i>	Lex, Yacc, Gdb
<i>Web</i>	ASP, ASP.NET 2.0, HTML, CSS

## Curriculum Courses

Introduction to programming, Electronics I, II & III, Advanced Mathematics I, II & III, Circuits & Systems, Digital Circuits & Systems I & II, Principles of Communication Engineering, Data Structures, Algorithm Design and Analysis, Discrete Mathematics, Computer System Architecture I & II, Operating Systems, Computer Networks, Microprocessors I & II, Info Systems and Data Management, Compiler Design, Artificial Intelligence I

## Positions Held

- 2007 | Team Leader, Unmanned Aerial Vehicle Project, DCE.  
2007 | Director, Technical Affairs, Asia-Pacific Student Entrepreneurship Society (ASES).  
2007 | Chief Editor, Trigger '07 and Iota '07. Technical Publications of DCE IEEE Student Chapter.  
2006 | Head, Wireless Communications Group for the Unmanned Aerial Vehicle Project, DCE.

## **Awards / Honors**

2007	1 <sup>st</sup> position at Envision – the predefined software design competition held in DCE.
2006	Most Innovative Design Award at the International Aerial Robotics Competition 2006.
2006	2 <sup>nd</sup> position at AI software design competition held at NSIT.
2006	3 <sup>rd</sup> position at Creativity ++ – the software design competition held at IIT Delhi.
2006	Finalist, Microsoft Security Shootout Challenge. Amongst top 100 all over India.
2005	2 <sup>nd</sup> position at Envision – the predefined software design competition held in DCE.
2005	1 <sup>st</sup> position at Construct – the open software design competition held at NSIT.

## **At School Level**

2000	National Talent Search Exam scholarship.
1999	Junior Science Talent Search Exam scholarship.
1998	Recipient of Scholar Gown, given to students for continuous Academic Excellence

## **Professional Memberships**

2005 - 2008	<i>Institute of Electrical and Electronics Engineers (IEEE)</i>
2005 - 2008	<i>Asia-Pacific Student Entrepreneur Society (ASES)</i>