

# Curriculum Vitae

## Personal information

Surname(s) / First name(s) **Nawaz, Omer**  
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Nationality Pakistani  
Date of birth 21-May-1979  
Gender Male

## Occupational field **Internet Systems and Telecommunication**

### Work experience

Dates	Sep, 2003 – Jan, 2009 (On Study Leave)
Occupation or position held	Lecturer
Main activities and responsibilities	Knowledge mentor of Computer Networks subjects and member Curriculum Committee. During planning & setup phase of PUCIT project office, worked as key member for designing deliverables for smooth execution of final projects.
Name and address of employer	Punjab University College Of Information Technology Lahore , Pakistan
Type of business or sector	Public Sector University
Dates	Jun, 2002 - Jul, 2003
Occupation or position held	Software Developer
Name and address of employer	Askari Information Systems
Type of business or sector	Software Development Organization

## Education and training

Dates	September, 2009-2011
Title of qualification awarded	<b>Masters in Electrical Engineering with emphasis on Internet Systems</b>
University	Blekinge Institute of Technology , Karlskrona, Sweden
Thesis Work	Swedish Institute of Computer Science (SICS) in Collaboration with Sony Ericsson Lund
Principal subjects	<b>Masters Courses</b> Mobile Services, Simulation, Wireless Personal Area Networks, Network Management, Telecommunication Systems, Network Security, Research Methodology with Emphasis on Internet Systems, TCP/IP Internetworking etc.

## Projects

### **Simulating and Optimizing Results:**

In this project, we provided results based on quantitative simulation with sound confidence analysis for proposed system involving threshold level, queue size, delay etc parameters. Decisions regarding dimensions were based on our results.

Condition handling, autocorrelation and suitable batch sizes, quality assurance based on relative half size, counter checking and dimensioning were measured and presented in form of graphs. The problem under analysis was exponentially distributed so we used M distribution. But we also analyzed results based on D/U distributions in terms of loss ratio's, confidence intervals etc.

### **Fading Effect in Wireless Networks:**

The main purpose of this work was mathematical modeling of multi-path fading in wireless communication systems. The tasks consist of an introduction to fading (both Rayleigh and LOS) and evaluating various theoretical parameters by programming tasks in 'Matlab' tool

### **TCP Westwood Tuning:**

The purpose of project was tuning TCP parameters to increase the network performance of TCP on your machine. This project proves performance enhancement features of TCPW on fast networks. In project, I tuned TCP parameters on UBUNTO version of Linux and achieved better performance using TCPW. TCPW Performance is compared with the standard TCP and analytic advantages are cross validated by acquiring results from the network monitoring tools (Wireshark, TCP dump).

### **Analyzing VPN performance on Linux Tool:**

In this project, VPN Tunnels were created by both VTUN (BLOWFISH) and Open Swan. During traffic analysis, it was evident that all packets were authenticated and encrypted using ESP protocol. Traffic was monitored using Wireshark and the complete analysis report based on these parameters was written.

### **OPNET Based Projects:**

I have strong command in the tool and have performed various simulations like analyzing loss, delay on large networks with different traffic types, Evaluating TCP Algorithms (Slow Start, Fast Retransmit/Recovery), simulating OSFF with various topologies and costs etc

Dates	2000 - 2003
Title of qualification awarded	<b><i>Masters in Computer Sciences</i></b>
University	International Islamic University, Islamabad, Pakistan
Principal subjects and projects	Data Communication and Networks, Advanced Networks, Network Design and Management, Operating System Concepts, Advanced object oriented programming, Database Systems, Electronics, Software Engineering(I,II),Computer Architectures, Principal of management

## Projects

### POP3 With MIME Support

Most of the POP3 implemented softwares and open source projects support the basic level of MIME support. They do not support inline images and also do not support the outlook attachment format called win.dat. I used sockets to connect to POP3 server and then write down parser for each mime types.

Tools used **Visual Basic.Net**

### IM Client

IM client is Internet messaging client for different known messengers (MSN messenger, Yahoo Messenger and Toc Protocol for AOL Messenger). This was a huge research oriented project.

Tool used **.Net**

### IE-Proxy

IProxy is a normal proxy server. If we install the IProxy server on our system, the IE does not communicate with the outer internet directly but it sends request to the IProxy and communicate with my proxy server.

Tool used **.Net**

### Client Server Chat

This Application was developed using WINSOCK2 API. Client Server chat providing all types of chatting facility using sockets.

Tools Used **C/C++, VC++ (Socket Programming)**

### Information Security

Sample software for encrypting and hashing simple text files using various algorithms were developed to understand the key concepts in Network Security e.g. Secret Key(Conventional) Encryption / Public Key Encryption, Secret key generation and Authentication .DES, RSA, KNAP SACK, MD5 and SHA algorithms were implemented to understand above concepts.

Tools Used **C++**

## Personal skills and competences

Mother tongue

**Urdu**

Other language  
English Proficiency Exams

**English**  
**IELTS. Overall Band Score: 7**

Self-assessment

**Language**

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
Excellent	Excellent	V.Good	Excellent	Excellent

## Research Interests

All IP network architectures  
Mobility and QOS in Heterogeneous wireless and mobile networks  
IP Overlays Networks  
IP routing and switching  
Interoperability among web services (SOA)

Organisational skills and competences	<p>Excellent, organizational, analytical and problem solving skills.  Culturally adaptable and flexible.  Self-motivated and able to work on own initiative.  Excellent interpersonal skills to work closely with external and internal teams.  Enjoy working in a challenging, fast-paced environment.  Methodological and stress tolerance.  Ability to prioritize and management principles.</p>
Programming skills and competences	C,C++, Visual Basic.Net, PHP, XML
Tools and Platforms	<p>OPNET and MATLAB  Windows 2000,XP,Server2003 ,Ubuntu Linux  Microsoft Office, ERWin, Rational Rose, Visio</p>
Sports and Personal Interest	<p>Playing Squash, Swimming,  Cooking good stuff  Listening Music  Travel and Tourism</p>
<b>References</b>	References can be provided upon request