VENKATESH RAO
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OBJECTIVE :

To develop my career as a Software Professional in a challenging environment, contributing and implementing quality ideas in Software Design and Development.

EDUCATION :

Masters in Computer Science,
Syracuse University, Syracuse, NY
Expected Graduation : Spring 2008 (May 2008)
GPA : 3.4/4.0

Bachelor of Engineering in Computer Science,
Visvesvaraya Technological University, Belgaum, India
Graduation : July 2006
Grade : First Class with Distinction (72.7%)

TECHNICAL SKILLS :

Programming Languages : C, C++, Java, C#.
Operating Systems : Unix, Linux, Minix, Windows, Solaris.
Tools : VMware Workstation 5.5.3, 6, Microsoft Visual Studio 8.0.

RELEVANT COURSEWORK :

Operating Systems	Object Oriented Design
Algorithms	Computer Security
Internet Security	Computer Networking and Data Security

RESEARCH PROJECTS :

DNS Pharming Attack
Developing the *DNS Pharming Attack* as a *Research Assistant* for the NSF funded Computer *SEcurity EDucation project (SEED)* since September 2007.
My role is to successfully implement and launch this attack in the wireless environment and involves methods like *DNS cache poisoning* and *phishing*.
Platform : Fedora Core 6 / Minix 3.

ACADEMIC PROJECTS :

Role Based Access Control (RBAC) for Minix 3
Enhanced Kernel level security of Minix 3 by implementing the Role Based Access Control based on the proposed NIST (National Institute of Standards and Technology) standard for RBAC. Implemented the Core RBAC features including role management, session management and separation of duties.
Language : C
Platform : Minix 3.

IP Security (IPSec)
Implemented IPSec protocol for Minix, a security protocol at the IP layer that can be used to establish Virtual Private Networks (VPNs). Involved encryption, authentication and cryptographic key management for each packet in the data stream. Implemented the Encapsulating Security Payload (ESP) Protocol in the Tunnel mode to achieve secure communication for IPv4 traffic.
Language : C
Platform : Minix 3.

Reliable Multicast File Transfer using Tree-Based Approach
Implemented a software package for reliable file transfer using tree-based multicast approach. Built the reliability layer on top of the unreliable UDP multicasting. Reliable and faster file transfers made possible by the use of packet sequencing, ordering and retransmission mechanisms, based on the research paper by *Rajendra Yavatkar - " A reliable dissemination protocol for interactive collaborative applications"*.
My role in this project was designing and implementing the lower level multicast layer and the reliability layer.
Language : C++
Platform : Windows XP
Tool : Visual Studio 8.

Analyzing type dependencies in very large programs
Software package to analyze the dependencies between the types in a program that is in a local or a remote machine. Involved recognizing types, constructing the dependency tree, and evaluating the strongly dependent components. Used XML based message passing.
Language : C++
Platform : Windows XP
Tool : Visual Studio 8.

Nachos Extensions
Extended the capability of Nachos to support synchronization between threads and multiprogramming. Extended the file system of Nachos and improved performance by building a disk access cache.
Language : C++
Platform : Solaris.

Network Data Packet Analyzer
Implemented a basic network packet analyzer (sniffer) on Linux using the *Pcap (Packet Capture)* library. Analyzes real UDP and TCP packets passing over the network. Part of a larger network simulator software package.
Language : C
Platform : Red Hat Enterprise Linux 4
Libraries : Pcap, OpenGl and GTK+2.0.