

SHYAMSUNDER RATHI

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EDUCATION

Master of Science, Computer Science

University of Southern California, Los Angeles, CA

May 2009

GPA: 3.86/4.00

Coursework: Operating Systems, Security Systems, Web Technologies, Analysis of Algorithms, Internetworking and Systems Laboratory, Computer Communications, Probability Modeling, Software Multi-agents

Bachelor of Engineering, Electronics Engineering,

SV National Institute of Technology, Surat, India

May 2006

WORK EXPERIENCE

Research Programmer, Teamcore Research Group, University of Southern California **June 2008 – Present**

- Developed ARMOR, a scheduling system deployed at Los Angeles Airport (LAX), using Visual C#
- Designing and developing IRIS, a Java based scheduling assistant using game theoretical models for Federal Air Marshals, Department of Homeland Security, USA
- Designed, developed and deployed the group website (<http://teamcore.usc.edu>)
- **Technologies used:** Java (including Swing API), VC#, ASP.NET

Assistant Systems Engineer, TATA Consultancy Services Ltd, Mumbai (India)

June 2006 – June 2007

Project: BANCS 24 - Core Banking Solutions to State Bank of India – New Development Module

- Learnt software engineering skills in areas of solution designing, testing, effort estimations and implementation

ACADEMIC PROJECTS

Operating System Design and development (C/C++)

Fall 2007

- Developed parts of NACHOS, an instructional Operating System, on a simulated MIPS-style workstation including synchronization, multiprogramming, Virtual Memory and Networking
- Implemented distributed client and server Operating Systems with multiple servers

Distributed file sharing system using peer-to-peer technology

Spring 2008

- Implemented a file sharing system on top of a peer-to-peer network using C/C++, UNIX socket API, POSIX threads and OpenSSL package for digital authentication and verification
- Designed a BGP like routing protocol for message and data transfer among peers
- Implemented a bloom filter for quick searching of stored files based on user specified tags

Online Shopping Store Website and Marketplace development

Summer 2008

- Developed a website of an online store using JSP, JDBC, MySQL, HTML, XML, CSS and JavaScript
- Provided client side pages for shopping and administration pages for site management and reports
- Built Web Services Information System for this website using Apache Axis, SOAP, XSLT and WSDL
- Combined it with websites of manufacturer, distributor and logistics sites to build a virtual marketplace

DHCP client using C

Fall 2008

- Developed a DHCP client using C and deployed it on a Fedora Linux machine

Research Paper

Fall 2008

- Wrote a research paper on ‘**Protection against buffer overflow attacks**’ in Security Systems course
- Analyzed various hardware and software approaches for protection against buffer overflow

AWARDS & PUBLICATIONS

- Certificate of appreciation from City of Los Angeles for successful deployment and working of ARMOR, a randomized scheduling assistant for checkpoints and canine patrolling units at LAX
- Best publication award for co-authored publication **IRIS: A Tool For Strategic Security Allocation in Transportation Networks**; to be published at **The 8th International Conference of Autonomous Agents and Multi Agent Systems (AAMAS) 2009 Industry Track, Budapest, Hungary**

SKILLS

Computer Languages: C, C++, Java, C#, SQL, Perl

Programming Tools: BSD Socket API (UNIX), OpenSSL package, POSIX threads API, GDB, Subversion

Others: Visual Studio, Eclipse, Netbeans, Wireshark, Tomcat Server, Dreamweaver

Web Technologies: HTML, JavaScript, CSS, JSP, XML, JDBC, SOAP, WSDL, XSLT, AJAX, ASP.NET