RAMACHANDREN SRINIVASA RAO

40 Newport Pwky Apt 206
Jersey City, New Jersey 07310

Email: ramachandren@gmail.com
Phone: 352 328 1770

OVERVIEW

Computer science graduate seeking to build a career in active research and development.

ACADEMIC PROFILE

Masters in Computer Science & Engineering — Jan 2008 – May 2009
University of Florida, Gainesville, FL — **GPA: 3.80 / 4**

Bachelors in Computer Science & Engineering — Aug 2001 – May 2005
Anna University, Chennai – India. — **GPA: 83.22 / 100**

SKILL SETS

Languages	C, C++, VB, Java, Perl, Ruby
Technologies	J2EE, SOAP, Webservices
Web Programming	HTML, PHP, Ruby on Rails, CSS, Javascript
Databases and Servers	Oracle 8i and PL/SQL, PostgreSQL 8.3 / Tomcat 5.5, Weblogic 8.1, Apache 2.2

GRADUATE COURSEWORK

Advanced Computer Networks	Mobile Networking	Computer and Network Security
Computer Networks	Programming Language Translators	Programming Language Principles
Analysis of Algorithms	Distributed Operating Systems	Software Engineering
Database Management Systems		

COURSE AND RESEARH PROJECTS

Mobile Networking (C, Linux, Scratchbox2, Ruby) — Jan 09 – Apr 09

- Designed a proximity based clustering mechanism for clustering the mobile nodes based on proximity
- Designed efficient, routing layer independent algorithms for resource discovery in Mobile Ad Hoc networks
- Developed an event driven simulator (in Ruby) to study the performance of the algorithm. Studied the algorithm under different mobility scenarios and compared the new algorithm with traditional approaches.
- Implemented part of the algorithm (in C) for Nokia N810 devices and tested the implementation by creating an Ad Hoc network on the fly with 8 devices.

Distributed Systems (Java) — Jan 09 – Apr 09

- Developed a distributed application to utilize the idle CPU cycles of various machines by distributing the processing of tasks across different machines in the network
- Simulated a logically global (distributed), associative object memory called tuple space (virtual shared memory) that can be used as IPC and synchronization primitives
- Implemented and tested the generic version of distributed minimum spanning tree algorithm

TINY Compiler (C, LEX, YACC, Linux) — Aug 08 – Dec 08

- Developed a compiler for the programming language TINY (a subset of Pascal) by adding new data types, operators, functions, procedures and other constructs to the language.

SecureIM (C, glib, libgmp, libpurple, Ubuntu Linux) — Aug 08 – Dec 08

- Designed a light weight protocol using Elliptic Curve Cryptography to provide secrecy, integrity and authenticity of Instant Message data. Implemented EC-DH and EC-DSA algorithms for the same.
- Implemented the protocol as a plug in for the open source IM application Pidgin.

Network Security & Cryptography (C++, Java, Linux) — Aug 08 – Dec 08

- Implemented Cipher Block Chaining, k-Bit Chiper Feedback Mode, Counter Mode encryption algorithms.
- Implemented a secure registration and authentication protocol/system using RSA and TEA algorithms.

Rule based Protocol Proxying (C, libpcap, Linux) Apr 08 – Jul 08

- Analyzed the semantics of popular internet protocols and identified the packets that can be proxied by NIC.
- Generated a rule base for identifying proxiable packets and developed a packet monitoring system using *C and libpcap* for gathering statistics on the volume of packets that can be proxied.

RPAL Interpreter (C++, Linux) Jan 08 – Apr 08

- Developed an interpreter for the functional language RPAL.
- Implemented a lexical analyzer, recursive descent parser and semantic analyzer using operational approach.

Multi Camera Image Capturing System (VC++, Windows) Jan 08 – Apr 08

- Developed a multi threaded application using *VC++ & MFC* to capture synchronized images.
- Developed a module in *VC++* for interfacing a GPS receiver device with the application.

TERM PAPERS

Routing in Mobile Ad Hoc and Delay Tolerant Networks

- Performed an in depth study of the different classes of routing protocols for Ad Hoc networks
- Came up with the analysis of the routing protocols and compared them with each other
- Identified the scenarios and the types of networks in which the protocols are suited to and proposed modifications to reduce routing overhead / delay
- Studied the effects of multi path routing and proposed techniques to utilize multi path routing effectively

On using structured mechanisms for Resource Discovery in Ad Hoc networks

- Analyzed the trade offs in using unstructured and structured mechanisms for resource discovery
- Proposed two algorithms that use structured approaches for resource discovery
- Compared the algorithms with unstructured approaches by performing simulations

WORK EXPERIENCE

Programmer, Informatics, UF Museum	**Environment:** Ruby on Rails, PHP, PostgreSQL, Ubuntu Linux **Responsibilities:** ▪ Worked in developing an information management/analytical web application (www.tolkin.org) for managing biological taxonomic and sequence data. (using Agile and Component Based Software Engineering) ▪ Performed UI Design, component development / integration, QA and regression testing.	Apr 08 - Apr 09
Research Assistant, High Performance Computing Lab, UF	**Responsibilities:** ▪ Worked with a team of three researchers and identified possible ways to reduce power consumption of PCs by proxying semantics of Application Layer protocols at NIC.	Apr 08 - Jul 08
Programmer, Precision Agriculture Lab, UF	**Responsibilities:** ▪ Worked with Prof. Dr. Daniel Lee in developing a Citrus yield mapping using machine vision.	Jan 08 - Apr 08
Module Lead & Software Developer *(for AXA Financial Services)* Tata Consultancy Services Ltd. New York City / Chennai, India.	**Environment:** Java / J2EE, Oracle 8i, VC++, Webservices, Mainframe, CICS **Responsibilities**: ▪ Designed, developed, enhanced and maintained an enterprise application (using spiral and incremental approach) for managing the lifecycle of insurance policies. ▪ Developed prototypes for future versions of the application. ▪ Performed QA / performance testing, Coordinated offshore team of 5 members.	Sep 05 - Dec 07