

Madhusudhanan Chandrasekaran

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OBJECTIVE

To seek summer internship in the field of Computer and Network Security with application to Intrusion Detection Systems, Operating Systems, Trust Management, Statistical modeling, Multi-Agent Systems and Game Theory.

EDUCATION

- **State University of New York at Buffalo** Amherst, NY
Ph.D. in Computer Science and Engineering *expected: August 2007*
Advisor: Dr. Shambhu Upadhyaya
- **State University of New York at Buffalo** Amherst, NY
Master of Science in Computer Science and Engineering August 2004
Advisor: Dr. Shambhu Upadhyaya
Thesis: Fast Online Reasoning Technique(FORT) using Sequential Hypothesis for Reasoning about Intrusions.
- **University of Madras** Chennai,India
Bachelor of Engineering in Computer Science and Engineering August 2002
Advisor: Prof. Roberts Masillamani
Project: Simulation and Study of Zone Routing Protocol for MANETs.

RESEARCH EXPERIENCE

- **Graduate Research Assistant** **CEISARE LAB** Aug 2003 - Current
Involved in building and testing DRUID, a statistical anomaly detection system, developed at The State University of New York at Buffalo. Involved in developing RACOON, a synthetic data generation tool, to overcome the overhead associated with data collection and to expedite the training phase of IDS. Currently working on an on-line masquerade detection using Sequential Hypothesis Testing (SHT). Investigating mimicry of user responses to prevent phishing attacks. Also, involved in the study of trust related issues in Mobile Ad-hoc Networks (MANETS).

TEACHING EXPERIENCE

- **Teaching Assistant** **Introduction to JAVA Programming** Fall 2004
Conducted Lecture recitations, assisted the instructor in preparing exams, labs, quizzes and grading. Helped the students in programming Labs and projects. Also, conducted two guest lecture on JAVA applet security.
- **Teaching Assistant** **Introduction to Data Structures** Spring 2003
Conducted weekly recitations and helped students in understanding discrete mathematics concepts and assisted them in C/C++ programming.
- **EOP Tutor** **Calculus for Undergrads** Fall 2002
Responsible for tutoring fundamental differential and integral calculus and helping students in their course material and preparing for exams and assignments.

PUBLICATIONS

1. Ramkumar Chinchani, Aarthie Muthukrishnan, Madhusudhanan Chandrasekaran, Shambhu Upadhyaya, "Rapid User Command Data Generation From Customizable Templates for Intrusion Detection", ACSAC 2004, Tuscon, Arizona.
2. Mohit Virendra, Murtuza Jadliwala, Madhusudhanan Chandrasekaran, Shambhu Upadhyaya, "Quantifying Trust for Mobile Ad-Hoc Networks", IEEE KIMAS 2005, Boston, Massachusetts. (*Invited paper*)
3. Ramkumar Chinchani, Madhusudhanan Chandrasekaran, Shambhu Upadhyaya, "Towards A Host-Based Masquerade Detection System Using Sequential Hypothesis Testing", Submitted to DSN 2005.
4. Madhusudhanan Chandrasekaran, Anusha Iyer, "Parameterization of Group Trust for Multiagent Systems", in submission.
5. Ramkumar Chinchani, Madhusudhanan Chandrasekaran, "Mimicking User Response to Prevent Phishing Attacks", in preparation.
6. Vijay Ganesh Hariharan, Bhuvanewari, Madhusudhanan Chandrasekaran, Anusuya Venugopal, "Parallelizing Probability based Protein Sequence Clustering Using Intelligent Job Allocation Mechanism". Summer Computer Simulation Conference(SCSC03), Montreal, Canada.
7. Vijay Ganesh, Bhuvanewari, Madhusudhanan Chandrasekaran, "A Distributed Algorithm to Align Distantly Related Sequence Using Profile Analysis", IEEE Tencon, October 2003, Bangalore, India.

SIGNIFICANT ACADEMIC PROJECTS

- ◇ Created MySQL a mini database system using JAVA which supports primitive DDL commands like create table, create index, drop table and DML commands like insert, delete and select. Indexing and B+ Trees were implemented for efficient storage.
- ◇ Developed a visualization tool for generating UML Time Sequence Diagrams from a given JAVA trace file, to assist debugging.

- ◇ Developed a client/server based online-chat messenger using UDP and curses in C.
- ◇ Developed Transaction Processing System using J2EE technology incorporating session, entity and message driven beans
- ◇ Simulated Circuit Switching and Packet Switching techniques in a subnet of six nodes using OPNET and analyzed the performance characteristics like Throughput and End to End delay were analyzed.
- ◇ Simulated Eight Bit Carry Lookahead and Ripple Carry Adder in Verilog.
- ◇ Conducted study of all common network attacks like Land Attack, Neptune, Ping O' death, Process table attack, Targa3, Smurf attack, Syslogd attack, Teardrop and UDP storm attacks.
- ◇ Implemented and compared the storage performance of Modified Quadtree for region based image representation.

COMPUTER SKILLS

Programming Languages
 Operating Systems
 Simulation tools
 RDBMS and related tools
 Web
 Scripting

JAVA, C, C++
 Linux, FreeBSD, Solaris, Win NT/XP
 OPNET, Matlab, Minitab, Maple
 Oracle, PL/SQL, SQL
 HTML, MS FRONTPAGE, JSP, J2EE, Servlets
 Perl, Python, Shell scripts

PROFESSIONAL SERVICE

- ◇ Reviewer for International Information Assurance Workshop(IWIA).

AWARDS

- ◇ Research Assistant and tuition Scholarship, University at Buffalo.
- ◇ Teaching Assistant and tuition Scholarship, University at Buffalo.
- ◇ Won first prize in several national level (India) debugging and technical quiz competitions.
- ◇ Secured University first rank in fourth semester and stood overall second in class of 120 during undergraduate study.

REFERENCES

Available on request