Dr R Rajendra Prasath

Senior Project Officer
drrprasath@gmail.com
www.geocities.com/drrprasath

Communication Empowerment Lab
Dept of Computer Science and Eng.
IIT Kharagpur–721302, India

Birth Date: 29/05/1974

Ph: (+91) 97344 29269

EDUCATION QUALIFICATIONS

M.Sc [Mathematics], M.Tech[CSE], Ph.D[M-CS]

DATE	INSTITUTION	DEGREE	CGPA / Class
1998 – 2004 (2008)	Dept. of Computer Science University of Madras	Ph.D [Mathematics-Computer Science]	NA
2008	Indian Institute of Technology Kharagpur	M. Tech* [Computer Science Engineering]	***8.16/10***
1996 – 1998	Ramanujan Institute (RIASM) University of Madras	M.Sc [Mathematics]	I
1992 - 1995	University of Madras	B.Sc [Mathematics]	II
1991	State Board of Tamil Nadu	H.S.C	I
1989	State Board of Tamil Nadu	S.S.L.C	I

* Thesis was nominated for The Best Application Thesis Award at IIT Kharagpur

FIELD OF RESEARCH

- Information Retrieval [Text Categorization]
- Distributed Algorithms [Message Passing Systems]

ACADEMIC ACHIEVEMENTS

- Organized the National Level Seminar on "*Algorithms and Artificial Systems*" at University of Madras.
- Acted as **Referee** for International Journals like IEEE/ACM Trans. On Networking and Information Sciences.
- Listed in Marquis' Who is Who in Science and Engineering, 6th Ed., USA.

ACADEMIC PROJECTS / RESEARCH

Institution: Indian Institute of Technology, Kharagpur - 721302
Research Area: Information Retrieval and Machine Learning
Project: "Enhancing Text Categorization using External Knowledge Repositories"

This project deals with design and analysis of efficient, innovative adaptive text categorization techniques (using knowledge repositories) that try to make better text representation so as to maximize the categorization accuracy.

Technologies Used: C, JAVA, rainbow (A statistical tool), graclus

---

Institution: University of Madras, Chennai – 600 005
Research Area: Distributed Algorithms for Message Passing Systems
Project: "Design of algorithms for shared resource allocation and certain selected problems in distributed systems"

This thesis describes distributed algorithms for single shared resource allocation in interconnection networks like augmented rings, meshes, graphs and solutions for distributed sorting & prefix computation on line and static ad hoc mobile networks.

Technologies Used: Discrete event simulator in C under Linux

PROFESSIONAL DETAILS

LIST OF PUBLICATIONS

Journals:

1. **R.Rajendra Prasath** and P.Thangavel, Shared resource allocation using token passing strategy in interconnected networks, Information – An International Journal, 6 (2) 2003, pp. 197-206.
2. P.Thangavel and **R.Rajendra Prasath**, A note on token based control in rings and linear arrays, The Journal of CSI, 32(3) March 2002, pp. 62-65.
3. **R.Rajendra Prasath** and P.Thangavel, Token based message passing in bidirectional ring extensions, Journal of Madras University (WMY-2000 Special Issue) - Section B: Sciences, 52 (2000) pp. 145-159.

Conferences:

1. **R.Rajendra Prasath** and P.Thangavel, Token based control algorithms for shared resource allocation in general networks, in Proc. of Third International Conference on Information 2004, held at Hosei University, Tokyo, Japan, Nov. 2004, pp. 531-534.
2. **R.Rajendra Prasath** and P.Thangavel, Token based control algorithm with central coordinators, in: Proc. of the National Seminar on Algorithms and Artificial Systems, Allied Publishers, Chennai, January 2003, pp. 25-40.
3. **R.Rajendra Prasath** and P.Thangavel, Shared resource allocation in Chordal ring networks using token based control mechanism, in: Proc. of the International Conference on Industrial Mathematics (ICIM'2000), held at Indian Institute of Technology, Madras during August 2001.
4. **R.Rajendra Prasath** and P.Thangavel, Shared Resource Allocation using Token based control strategy in ring extension topologies, in: Recent Trends in Mathematical Sciences, (Eds.) J.C.Misra and S.B.Sinha, Narosa Publishing House, New Delhi, Dec. 2000, pp. 53-63.
5. **R.Rajendra Prasath**, Shared resource allocation using baked potato routing, in: Proc. of International Conference Asia-Pacific Telecom 2000 (APT – 2000) on Advances in Telecommunication and Information Technology, December 2000, pp. 144-152.

BOOKS:

1. R.Suguna and **R.Rajendra Prasath** (Edited), Proceedings of the National Workshop on Network Security, Chennai, September 2004.

TECHNICAL REPORTS:

1. **R.Rajendra Prasath**, Mayank Gupta and Sudeshna Sarkar, TamilNews -The Search Engine for Regional News, Dept of CSE, IITKGP, April 2007
2. D.Bordoloi, Asit Kumar Biswas, Ashish Kumar and **R.Rajendra Prasath**, Routing Issues in Sensor Network, Dept of SIT, IIT, Kharagpur, April 2007
3. **R.Rajendra Prasath**, Debasis Samanta and Vinay Gupta, Interaction Styles using Haptic Devices - The Designer Approach, Dept of SIT, IIT, Kharagpur, May 2007.
4. **R.Rajendra Prasath** and Niloy Ganguly, Modeling Epidemics on Complex Networks, Dept of CSE, IIT, Kharagpur, March 2007.
5. **R.Rajendra Prasath** and B.Satish, Garbage Collection – Handling Dynamic Memory Management, Dept of CSE, IIT, Kharagpur, November 2006.
6. **R.Rajendra Prasath** and Arobinda Gupta, Delay Tolerant Routing, Dept of CSE, IIT, Kharagpur, November 2006.

OTHER PAPERS:

1. **R.Rajendra Prasath**, Lessons From: Quiet Leaders, [Article on Management]
2. **R.Rajendra Prasath**, The power of Parallel Computation – Basic Design Issues (Monograph), in: "EXPLORA: Knowledge Unleashed", Sep. 2002, pp. 115-121.

Communicated:

1. **R.Rajendra Prasath**, An alternative time-optimal distributed sorting algorithm on a line network (Communicated)
2. **R.Rajendra Prasath** and Sudeshna Sarkar, Augmenting Texts for Improving Categorization using External Knowledge Repository (Communicated)
3. **R.Rajendra Prasath** and Sudeshna Sarkar, Enhancing Text categorization through clustering of words from External Knowledge Repository (Communicated)

TECHNICAL SKILLS

- **Programming** : FORTRAN, C, Core Java, J2EE (JSP, Servlets), XML, Swing Perl, PHP, Javascript, CSS, Ruby
- **Databases** : MySQL, MS SQL
- **Platforms** : Enterprise Linux, Solaris, Windows 2000, XP, Vista
- **Tools** : Netbeans IDE, Apache Tomcat Server, Lex & Yacc, Matlab, Maple and Latex[all Versions], Nutch, Lucene, tomcat

PROFESSIONAL EXPERIENCE

Organization : IIT Kharagpur ***May 2008 – Till date***
Title : Senior Project Officer
Department : Communication Empowerment Lab, IIT Kharagpur
Sponsored by: Ministry of Information Technology, Govt. of India
Responsibilities: **Research and Development of CLIA system [Module development and integration, project management, developing ranking algorithms for web searches, Interface design and product release]**

Organization : MNM Jain Engineering College ***July 2004 – July 2006***
Job Title : Assistant Professor
Department : Information Technology
Students : Under graduates [B.E / B.Tech]
Responsibilities : **Teaching, Research & Administrative responsibilities [Member - College Council, Faculty Advisor, Accreditation in-charge, member-inspection committee and Time Table in-charge]**

Organization : University of Madras ***Nov. 1998 – June 2004***
Job Title : Research Scholar / Guest Lecturer
Students : Post graduate Students
Responsibilities: **Research, Teaching, Taking Seminars, Guest Lectures, project discussion & Conference in-charge**

MEMBERSHIPS/ ORGANIZATION ASSOCIATED

- Member, Young Researchers Committee, World Federation of Soft Computing
- Member, International Information Institute, Japan
- Member, The Computer Society of India

EXTRACURRICULAR ACTIVITIES

LYRICS	Writing Lyrics on all subjects in Tamil Language. Writing Management related articles is also my passion.
WEB DESIGN	Designing web pages using the popular technologies
SOCIAL WORK	Participated in NSS and NCC at School and College Level
HOBBIES	Listening to Silence, Reading, writing stories, Trying to model science behind natural evolution, watching Tennis

PROJECTS HANDLED / MANAGED

ON-GOING:

Title	:	CROSS LINGUAL INFORMATION ACCESS (CLIA) SYSTEM
Developed at	:	Communication Empowerment Laboratory, IIT, Kharagpur
Duration	:	2 Years [currently in the Second Year]
Funded by	:	Ministry of Information Technology, Govt. of India, New Delhi
Deliverables	:	**IndiaSearch** with the support of 6 Indian Languages

---

Title	:	ENHANCING TEXT CATEGORIZATION USING EXTERNAL KNOWLEDGE REPOSITORIES
Worked with	:	Prof. Sudeshna Sarkar [Sudeshna@cse.iitkgp.ernet.in]
Developed at	:	Dept. of Computer Science & Engineering, IIT Kharagpur
Partially Funded	:	All India Council for Technical Education [AICTE], New Delhi
Output	:	Research papers [Journal – 1; Conferences – 1]

MAJOR RESEARCH PROJECT – WORKED IN:

Title	:	A STUDY ON DESIGN OF DISTRIBUTED ALGORITHMS, NEURAL NETWORKS AND APPLICATIONS
Worked with	:	Dr. P.Thangavel [thangavelp@yahoo.com]
Developed at	:	Dept. of Computer Science, University of Madras
Funded by	:	All India Council for Technical Education [AICTE], New Delhi
Output	:	Research papers [Journal – 1 (Cited by 3); Conferences – 2]

Title	:	STUDY OF PARALLEL ALGORITHMS FOR MESSAGE PASSING AND RELATED PROBLEMS IN PARALLEL ARCHITECTURES AND SELECTED COMBINATORIAL PROBLEMS
Worked with	:	Dr. P.Thangavel [thangavelp@yahoo.com]
Developed at	:	Dept. of Computer Science, University of Madras
Funded by	:	Council of Scientific and Industrial Research [CSIR], New Delhi
Output	:	Research papers [Journal – 2; Conferences –3]

MINI PROJECTS DONE:

Title	:	TAMILNEWS[1] - THE SEARCH ENGINE FOR REGIONAL NEWS
With	:	PROF. SUDESHNA SARKAR [sudeshna@cse.iitkgp.ernet.in],
Developed at	:	Department of Computer Science and Engineering, IIT, Kharagpur
Tools used	:	Java - JSP servlet, Lucene, PERL Crawler, JavaScript and mySQL.

Title	:	GARBAGE COLLECTION – HANDLING DYNAMIC MEMORY MANAGEMENT
Supervisor	:	PROF. RAJEEV KUMAR [rkumar@cse.iitkgp.ernet.in],
Developed at	:	Department of Computer Science and Engineering, IIT, Kharagpur
Tools used	:	Java (JVM).

Title	:	DISCRETE EVENT SIMULATOR FOR DISTRIBUTED SORTING
Developed at	:	Department of Computer Science and Engineering, IIT, Kharagpur
Tools used	:	C under RHEL4.0
Output	:	Research paper [Conferences – 1]

---

[1] Details: http://thamizhnews.blogspot.com

PROJECTS GUIDED DURING 2005-2006
[@ MNMJEC, CH - 96]

TITLE: INTRUSION DETECTION SYSTEM IN NETWORKING USING GENETIC ALGORITHM

IDEA: Using Genetic Algorithm in Intrusion Detection System, complex anomalous behaviors focused on TCP/IP Protocols are identified. Genetic algorithm is to generate rules that match the anomalous behavior on network connections and are used to filter new connections to find suspicious network traffic, thus avoiding intruders into the network.

STUDENTS: HEMALATHA.S (31002205018) AND LAKSHMI.V (31002205023)

TITLE: SOAP PARSER FOR WEB SERVICE MANAGEMENT (WSMAN)

IDEA: The incoming SOAP packet from client arrives at WSMAN handler in the Web Server which sends the packet to SOAP parser. The parser will check each incoming packet for the correctness of syntax and semantics. If sequence matches, it is stored in the data structures. The response SOAP packets are generated and send back to the client.

STUDENT: MADHU BALA.L (31002205025)

TITLE: DISCUSSION FORUM

IDEA: Discussion Forum helps in conducting conversations online. Forums contain some special features, but at their core remain a simple web-based message board.

STUDENTS: B.RAMALAKSHMI (31002205041) AND J.BRINDHA (31002205009)

PROJECTS GUIDED DURING 2004-2005
[@MNMJEC, CH - 96]

TITLE: ELECTRONIC BANKING

IDEA: To offer a series of services to the Customer through the Internet faster instead of making a visit to bank every time. This enables individuals to perform banking activities at home, company or at any hub via the Internet.

STUDENTS: P. RAMACHANDRAN (31001205051) AND C. NITHYASREE (31001205042)

TITLE: IMPLEMENTATION OF LOGICAL TUNNELING SECURITY OVER THE WAN POINT-TO -POINT NETWORK

IDEA: This VPN allows pretending users who are using a leased line or direct telephone call to communicate between the endpoints.

STUDENTS: PADMA PRIYA. S (31001205043), RENUKA RAJAGOPALAN (31001205049) and V. SANTHANA LAKSHMI (31001205057)

TITLE: INSECT-AN INTEGRATED SECURITY SUITE USING PYTHON

IDEA: InSect is built to provide a security framework for users. This security suite ensures safety of files through File Encryption Algorithms, the integrity of files while transmitting through Hashing Methods & complete disintegration of files after deletion.

STUDENTS: ANJU ABRAHAM VADAKKEL (31001205007) and PRASHANTH. S (31001205046)