

Parag Agarwal

Website: www.utdallas.edu/~pxa016500

SUMMARY

- A goal-oriented, self-driven professional with experience in software industry as well as academic research.
- 3+ years of experience in software industry on projects related to Telecom Industry and Web-services.
- Academic research experience related to Multimedia and Information Security with focus on 3D Content Protection, Reliable Streaming, 3D Compression, Denial of Service attacks and Collision-Detection prediction in 3D interactive media.

EDUCATION

The University of Texas at Dallas, Richardson, Texas,

PhD in Computer Science, Current GPA: 3.53/4.0, Expected Dec 8, 2007

Dissertation Title: *3-D Content Protection Techniques*

Advisor: Dr. Balakrishnan Prabhakaran

The University of Texas at Dallas, Richardson, Texas,

Masters in Computer Science (Networking Track), GPA: 3.44, Dec 2002

National Institute of Technology Calicut (formerly known as REC Calicut), INDIA

Bachelor of technology in Computer Engineering, GPA not awarded: First Class (71%), Sept 1999

TECHNOLOGY SKILLS

Operating Systems: UNIX, Windows XP, 2003, 2000.

Languages: C, C++, Basic SQL, Core Java, Shell Script, Perl Script, JSP, HTML, SVG, SCXML

Software: Eclipse, MATLAB, MySQL, Apache Tomcat, ANT, Clear Case.

Networking: TCP/IP, DHCP, HTTP, HTTPS.

Security: RSA, SSL, PKI, Watermarking of audio, 3D models and motion capture data.

WORK EXPERIENCE

Samsung Telecommunications America

Intern at R&D lab (Sept 2007 till present)

- User Interface for SVG (Client: Samsung): Enhancement (design, code and test) of a tool that can be used to interactively generate scalar vector graphics (svg) and state chart xml (scxml). [scxml, svg, Java, UNIX]

Motorola India Electronic Pvt. Ltd, Bangalore, INDIA

Software Engineer (April 2003 to Nov 2003)

- Java Network Simulator (Client: Motorola USA): Testing and enhancement of a network simulator that can test the call processing functionality of Motorola's CDMA protocol stack. Automated the test environment and wrote tools to trace problems during the testing process. [Java, Perl, Shell Script and Irix.]

Nuntius Systems India Pvt. Ltd, Bangalore, INDIA

Software Engineer (March 2001 to July 2001)

- Mobile Station side GPRS protocol stack (Client: Nuntius Systems (USA)): Proof of concept for GPRS protocol stack that required designing, coding and testing of the logical link layer. The project resulted in various quality documents that helped other project members. [C, UNIX, Shell Script]

Cognizant Technology Solutions, Chennai, INDIA

Programmer Analyst (Aug 1999 to Feb 2001)

- Customer Care System (Client: Online South Pacific): Designed, coded and tested a web-service for an ISP based customer service. The project involved front end (client) and back end (server) side development. [JavaScript, HTML, ASP, C, IIS 4.0, and Solaris].
- Location Services (Client: Nokia Networks (FINLAND)): Designed, coded and tested a server side web-based HTTPS interface. The server side processing XML and involved xml based query that required interfacing to proprietary algorithms implemented in C. [Apache, Servlets, JNI, C, XML]

RESEARCH PUBLICATIONS

All publications available @ http://utdallas.edu/~pxa016500/PGH_resume.htm

- Parag Agarwal, and B. Prabhakaran, “**Minimizing Collision Pairs Searched in Interactive Animation Authoring**”, Accepted in Visual Computer
- Parag Agarwal, and B.Prabhakaran, “**Robust Blind Watermarking Mechanisms for 3D Point Sampled Geometry**”, In Proceedings of ACM Multimedia and Security Workshop 2007, pp-175-186
- Puneet Maheshwari, Parag Agarwal, and B.Prabhakaran, “**Progressive Compression invariant Watermarking Scheme for 3D meshes**”, Proceedings of ACM Multimedia and Security Workshop 2007, pp-245-250
- Hui Li, Parag Agarwal, Balakrishnan Prabhakaran, “**Data Hiding based Compression Mechanism for 3D Models**”, Proc. of IEEE Data Compression Conference 2007, pg – 391 (*POSTER*)
- Parag Agarwal, Balakrishnan Prabhakaran, “**Tamper Proofing 3D Motion Data streams**”, Proc.of Multimedia Modeling Conference, Jan 2007, pp – 731 740
- Parag Agarwal, Ketaki Adi and B.Prabhakaran, “**Robust blind watermarking mechanism for motion data streams**” Proceedings of ACM Multimedia and Security Workshop, Geneva, Switzerland, September 26-27, 2006.pp – 230 –235
- Parag Agarwal, Ketaki Adi and B.Prabhakaran, “**SVD-Based Tamper Proofing Of Multi-Attribute Motion Data**”, Proc. of The 12th International conference on Distributed Multimedia Systems (DMS) '06, pp-46-52
- Parag Agarwal and B.Prabhakaran Bhavani Thuraisingham, “**Uncertainty: An extra layer of security for Unauthorized traffic based Web Services**”, Proc. of the 12th International conference on Distributed Multimedia Systems (DMS) '06, pp – 53-58

ACADEMIC PROJECTS

- Designed, coded and tested a web-service: **Motion Data Online Repository** (multimedia.utdallas.edu/MDB/search.jsp)
- Designed and tested an algorithm for reducing search space for **Collision Detection and Prediction in 3D interactive media**
- Designed a secure system for **Optimizing Overlay Networks for Unauthorized Traffic**
- Survey-Paper: A **survey on uncaps routing protocols for mobile ad hoc networks**, <http://citeseer.csail.mit.edu/481660.html>
- Designed, coded and tested of a tool for **ad hoc network visualization tool for ns2**
- Designed and implemented a **secure and scalable e-commerce Protocol** (BS project)

HONORS & MERITS

- “3D Watermarking”, Co-PI: **Research Grant (\$33,000)**, AT & T Foundation, Dec 04 to June 06
- **Honorable Mention at DMS 06 for Animation Movie** “Groucho and Chaplin Dance: Multimedia Arts Competition” (<http://media.ksi.edu/video10.html>)
- **Proficiency Award** for Academic Excellence during under-graduation
- **Joint Secretary** of Literary and Debating club at REC Calicut (1997-1998)

PROFESSIONAL AFFILIATIONS

- Member of IEEE and ACM
- Reviewer of IET journal on Security

AVAILABILITY Dec 8, 2007

VISA STATUS F1, OPT

REFERENCES Available upon request.