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RAO NAVEED BIN RAIS

Education

2007 – 2011   **INRIA/University of Nice**   Sophia Antipolis, France
PhD in Computer Science and Engineering – Networks and Distributed Systems
- **PhD Title:** Communication mechanisms for message delivery in heterogeneous networks prone to episodic connectivity
- **Thesis Advisors:** Dr. Thierry Turletti (INRIA, France) and Prof. Katia Obraczka (UCSC, USA)

2006 – 2007   **University of Nice/ENST Paris**   Sophia Antipolis, France
Master Research, Specialization in Networks and Distributed Systems (RSD) – Average **15.3/20.0**
- Majors in Computer Networks, Especially Wireless Networks

1999 – 2002   **National University of Science & Technology (NUST)**   Rawalpindi, Pakistan
Bachelors of Engineering in Computer Systems – Distinction (Honors) with CGPA **3.57/4.00**
- Majors in Communication, Signal Processing & Architecture, and minors in Software Engineering

Professional Experience

Jul 2005 – Jun 2006   **C.A.R.E. Pvt. Ltd.**   Islamabad, Pakistan
Designation: Senior Design Engineer
Computer Networks & Applications
- Design & Development of a Network Application for Email Sniffing (C, C++) using PCAP Library

Device Driver Development
- Development of an Interrupt-Driven Device Driver for a FPGA-based board using Windows Driver Model (WDM)

Jan 2003 – Jun 2005   **C.A.R.E. Pvt. Ltd.**   Islamabad, Pakistan
Designation: Design Engineer
Embedded System Design & Development
- Design Implementation of a host based server application to handle a Multiprocessor Fixed Point DSP Card and FPGA Card via PCI using a protocol designed

Assembly Language Programming
- Implementation of a real-time application on TI's Fixed Point Digital Signal Processor (DSP) C6414 in C6414 assembly language

Image Processing & Computer Vision
- Development and analysis of a new adaptive scheme for Text and Document Image Thresholding
- Statistical analysis of digital images (Image Costing)

Jul 2002 – Jan 2003   **Communications Enabling Technologies**   Islamabad, Pakistan
Branch office of Quartics Inc., USA
Designation: Design Engineer
Computer Networks & Applications
- Implementation of Multilink Point-to-Point protocol (MP), Point-to-Point protocol (P2P) for Packet Processor in Linux using C Language.

Internships

- PhD internship at University of California at Santa Cruz (UCSC), USA under the supervision of Prof. Katia Obraczka, June-July 2009.

Professional & Academic

- PhD with distinction "Très Honorable" at INRIA/University of Nice, Sophia Antipolis, France
- 2nd position in Master RSD at University of Nice, Sophia Antipolis, France
- HEC scholarship for MS/PhD studies in France from Government of Pakistan

Awards	▪ Letter of Appreciation from CARE Pvt. Ltd, Pakistan for Excellent Performance for the year 2003/04 ▪ Sheikh Zayed's and MoST Scholarship for the course of engineering ▪ Performance Scholarships from NUST throughout the engineering ▪ 5th Position in Bachelors of Computer Engineering at NUST ▪ 4th Position in Bahawalpur Board in Higher Secondary School Certificate (HSSC) Examination in 1998
Technical Skills	**Network Simulators:** ▪ Network Simulator 3 (NS3), Network Simulator 2 (NS2), OMNET++ **Skills:** ▪ Network and System Programming in C (Linux) ▪ Fixed-Point Programming in C ▪ Assembly Language Programming for Fixed Point Processors (VLIW architecture) ▪ Device Driver Development using Windows Driver Model (WDM) in Visual C++ **Programming/Scripting Languages:** ▪ C, C++, Tcl, MatLab
Publications	▪ **R.N.B. Rais**, M. Abdelmoula, T. Turletti, K. Obaraczka, "*Naming for Heterogeneous Networks Prone to Episodic Connectivity*", to appear in IEEE WCNC Conference, Mexico, March 2011. ▪ **R.N.B. Rais**, M. Mendonca, T. Turletti, K. Obraczka, "*Towards Truly Heterogeneous Internets: Bridging Infrastructure-based and Infrastructure-less Networks*", in Proceedings of 3rd IEEE/ACM COMSNETS Conference, India, January 2011. ▪ T. Spyropoulos, **R.N.B. Rais**, T. Turletti, K. Obraczka, A. Vasilakos, "*DTN Routing: Taxonomy & Design*", to appear in the Book, Delay Tolerant Networks: Protocols and Applications, CRC Press, ISBN: 978-1-4398110-8-5, May 2011. ▪ **R.N.B. Rais**, T. Turletti, K. Obraczka, "*Message Delivery in Heterogeneous Networks prone to Episodic Connectivity*", under revision, ACM/Springer Wireless Networks (WINET) Journal, 2010. ▪ T. Spyropoulos, **R.N.B. Rais**, T. Turletti, K. Obraczka, A. Vasilakos, "*Routing for Disruption Tolerant Networks: Taxonomy & Design*", ACM/Springer Wireless Networks (WINET) Journal, Vol. 16 No. 8, pages 2349-2370, November 2010. ▪ M. Mendonca, **R.N.B. Rais**, T. Turletti, K. Obraczka, "*Message Delivery in Heterogeneous Disruption-prone Networks*", in ACM Mobicom, Chicago, USA, October 2010. ▪ M. Mendonca, **R.N.B. Rais**, T. Turletti, K. Obraczka, "*Message Delivery in Heterogeneous Disruption-prone Networks*", in ACM second Wireless S3 workshop, Chicago, USA, October 2010. ▪ **R.N.B. Rais**, T. Turletti, K. Obraczka, "*MeDeHa – Efficient Messae Delivery in Heterogeneous Networks with Intermittent Connectivity*", INRIA Technical Report No. 7227, March 2010. ▪ **R.N.B. Rais**, T. Turletti, K. Obraczka, "*Coping with Episodic Connectivity in Heterogeneous Networks*", in Proceedings of 11th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Canada, October 2008. ▪ **R.N.B. Rais**, T. Turletti, K. Obraczka, "*Coping with Episodic Connectivity in Heterogeneous Networks*", Poster presentation at Rescom, France, June 2008. ▪ **R.N.B. Rais**, M.S. Hanif, I.A. Taj, "*Adaptive Thresholding Technique for Document Image Analysis*", in Proceedings of IEEE International Multi-topic Conference proceedings (INMIC), 2004. ▪ **R.N.B. Rais**, H.A. Khan, F. Kamran, "*A New Algorithm of Stereo Matching using Epipolar Geometry*", in Proceedings of IEEE International Multi-topic Conference (INMIC), 2003.
Journal / Conference Reviews	▪ IEEE Transactions on Vehicular Technology (TVT) ▪ IEEE Journal on Special Areas in Communication (JSAC) ▪ IEEE Communication Surveys and Tutorials Journal ▪ IEEE WCNC ▪ IEEE ICWUS

Teaching Experience	▪ Teaching Assistant at Centre for Advanced Studies in Engineering (CASE, http://www.case.edu.pk), Islamabad, Pakistan:
	  ● ECE 6607 – Computer Networks – 2003, 2004, 2005
	  ● ECE 7602 – Network & System Programming – 2004
	  ● ECE 7616 – Mobile Networking – 2004, 2005

Languages	▪ Urdu (Native) ▪ English (Fluent) ▪ French (Good)
References	▪ **Dr. Thierry Turletti**, Senior Researcher, INRIA Sophia Antipolis, France (Thierry.Turletti@inria.fr) ▪ **Prof. Katia Obraczka**, University of California at Santa Cruz, CA, USA (katia@soe.ucsc.edu) ▪ **Dr. Shoab A. Khan**, CASE/CARE/NUST, Islamabad, Pakistan (shoab@carepvtltd.com) ▪ **Prof. Amir Qayyum**, Muhammad Ali Jinnah University, Islamabad, Pakistan (aqayyum@ieee.org) ▪ **Prof. Imtiaz A. Taj**, Muhammad Ali Jinnah University, Islamabad, Pakistan (imtiaztaj@jinnah.edu.pk)