Mesut Ali Ergin

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Objective Statement

A full-time research and development position to utilize my prior experience in networking research and engineering. Available after Feb. 2010 timeframe.

Education

2004 – current Ph. D. in Electrical and Computer Engineering, Rutgers University, School of Engineering, New Brunswick, NJ, USA (Expected Graduation: Feb 2010)

Advisors: Prof. Marco Gruteser and Prof. Dipankar Raychaudhuri

2002 M. S. in Computer Engineering (High Honors), Bogazici University, Institute for Graduate Studies in Science and Engineering, Istanbul, TURKEY

M. S. Thesis: *A Cross Layer Protocol for Service Access in Mobile Ad Hoc Networks*
Advisor: Prof. Cem Ersoy

1999 B. S. in Control & Computer Engineering (Honors), Istanbul Technical University, Electrical and Electronics Engineering Faculty, Istanbul, TURKEY

B. S. Thesis: *GSM Interface Board Design for a Commercial Payphone*
Supervisor: Prof. B. Tevfik Akgun

1995 Istanbul Technical University, Foreign Languages School, Istanbul, TURKEY

1994 City of London College, English Language School, London, UK

Professional Experience

09/2004 – current *Graduate Research Assistant*, WINLAB Research Center, Rutgers University, NJ, USA
– Research Assistantship for ORBIT Wireless Research Testbed under NSF NRT Grant ANI0335244
– Software development with XML-based technologies
– Various wireless projects under sponsorship research programs for Panasonic, Intel and Toyota ITC.

05/2006 – 09/2006 *Graduate Intern*, Intel Corp., Radio Comm. Lab / CTG, Hillsboro, OR, USA
– Software scheduler development for interference mitigation due to multi-radio coexistence
– Performance enhancing designs for High Density WLAN environments

06/2005 – 09/2005 *Graduate Intern*, Intel Corp., Radio Comm. Lab / CTG, and Wireless Lab / MPG, Santa Clara, CA, USA
– Worked as an engineer in multi-radio coexistence analysis project for laptop platforms
– Responsible from evaluation of the application-level impacts of co-existence of different radio technologies like 802.11, UWB, WiMAX etc.

09/1999 – 08/2004 *Teaching and Research Assistant*, Department of Computer Engineering, Yeditepe University, Istanbul, TURKEY
– Teaching Assistantship for many undergraduate courses (see Teaching Experience)

– Research Assistantship for SeMA project under TUBITAK grants 101E037/EEEAG-AY-41 and 101E037/EEEAG-AY-44
– Senior System Administrator of departmental servers (1000+ users)

06/1998 – 06/1999 *Contracted Counselor*, Alcatel Inc., R&D Department, Istanbul, TURKEY
– Designed a compact GSM interface system with two processors including real-time software implementations in both high and low level languages

11/1997 – 09/2002 *Technical Manager*, A & A Computers Ltd., Istanbul, TURKEY
– Developed network implementations, provided solutions for GNU/Linux systems, supervised domain maintenance and web design, led software-on-demand implementations

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Teaching Experience

- *Data Communication and Computer Networks*: Developed and maintained laboratory content for nine semesters
- *Special Topics in Computer Networks*: Prepared PS sessions and organized term projects on high speed and wireless networks topics for two semesters
- *Operating Systems Design*: Taught practical aspects of UNIX-like OS from the viewpoint of a systems programmer and OS designer for eight semesters
- *Principles of Logic Design*: Conducted hands-on experiments of basic logic circuitry for one semester.
- *Systems Programming and Assembly Language*: Developed and conducted hands-on experiments on MC6802 based microprocessor kits for one semester
- *Introduction to Computers*: Taught as the first course of CS juniors for two semesters

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Research Interests

Performance of wireless networks under real deployment scenarios, involving high density and mobile environments. Creating better wireless experience for the users of the future Internet. Adaptation approaches for better multi-radio coexistence.

Publications

1. C. Dwertmann, M. A. Ergin, G. Jourjon, M. Ott, T. Rakotoarivelo, I. Seskar, and M. Gruteser, “DEMO: Mobile Experiments Made Easy with OMF/Orbit”, *In Proceedings of the ACM SIGCOMM 2009 (Demo Session)*, Spain, August 2009.

2. G. Chandrasekaran, M. A. Ergin, M. Gruteser, R. P. Martin, J. Yang, and Y. Chen. “DECODE: Exploiting Shadow Fading to DEtect CO-Moving Wireless DEvices”, IEEE Transactions on Mobile Computing (Accepted for Publication), July 2009.

3. G. Chandrasekaran, M. A. Ergin, J. Yang, S. Liu, Y. Chen, M. Gruteser, and R. P. Martin, “Empirical Evaluation of the Limits on Localization Using Signal Strength”, *In Proceedings of the 6th IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Network (IEEE SECON 2009)*, (Accepted for Publication), Rome, Italy, June 2009.

4. X. Jing, S. Anandaraman, M. A. Ergin, I. Seskar, and D. Raychaudhuri, “Distributed Coordination Schemes for Multi-Radio Co-existence in Dense Spectrum Environments: An Experimental Study on the ORBIT Testbed”, *In Proceedings of the 3rd IEEE International Symposia on Dynamic Spectrum Access Networks (IEEE DySPAN 2008)*, pp. 156–166 Chicago, IL, USA, October 2008.

5. M. A. Ergin, K. Ramachandran, M. Gruteser, “An Experimental Study of Inter-cell Interference Effects on System Performance in Unplanned Wireless LAN Deployments”, *Computer Networks (Elsevier)*, Vol.52, Issue 14, pp. 2728–2744, October 2008.

6. G. Chandrasekaran, M. A. Ergin, R. P. Martin, M. Gruteser, J. Yang, Y. Chen, "DECODE: Detecting Co-Moving Wireless Devices", *In Proceedings of the Fifth IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS 2008)*, pp. 315–320, Atlanta, GA, USA, September 2008.

7. M. A. Ergin, M. Gruteser, L. Luo, D. Raychaudhuri, H. Liu, "Available Bandwidth Estimation and Admission Control for QoS Routing in Wireless Mesh Networks", *Computer Communications (Elsevier)*, Vol.31, Issue 7, pp. 1301–1317, May 2008.

8. G. Chandrasekaran, M. A. Ergin, M. Gruteser, R. P. Martin, "Bootstrapping a Location Service Through Geocoded Postal Addresses", *In Springer LNCS, Proceedings of the 3rd Intl. Symposium on Location and Context-Awareness (LoCA, held with UbiComp)*, volume 4718, pp. 1–16, Germany, September 2007.

9. M. A. Ergin, K. Ramachandran, M. Gruteser, "Extended Abstract: Understanding the Effect of Access Point Density on Wireless LAN Performance", *In Proceedings of the ACM International Conference on Mobile Computing and Networking (ACM MobiCom 2007)*, pp. 350–353, Montreal, Canada, September, 2007.

10. M. A. Ergin, M. Gruteser, "Using Packet Probes for Available Bandwidth Estimation: A Wireless Testbed Experience (Poster)", *In Proceedings of First ACM SIGMOBILE Int. Workshop on Wireless Network Testbeds, Experimental Evaluation, and Characterization (WiNTECH 2006, held with Mobicom)*, Los Angeles, CA, USA, September 2006.

11. S. Baydere, M. A. Ergin, and O. Durmaz, "Constructing Wireless Sensor Networks via Effective Topology Maintenance and Querying", *Proc. of Med-Hoc-Net 2004, 3rd Annual Mediterranean Ad Hoc Networking Workshop*, Bodrum, Turkey, June 2004

12. M. A. Ergin, "A Cross Layer Protocol for Service Access in Mobile Ad Hoc Networks", M. S. Thesis, *Bogazici University*, 2003

13. E. Ozcan, A. Alkan, S. Demir, M. A. Ergin, H. Kul, and S. E. Seker, "STARS - Student Transcript, Administration and Registration System, an Open Source Internet Application", *Fifth National Academic Information Technologies Conference*, e-paper ref. 87, Turkey, 2003

14. S. Baydere and M. A. Ergin, "An Architecture for Service Access in Mobile Ad Hoc Networks", *Proceedings of the IASTED Wireless and Optical Communications*, pp. 392–397, Banff, Canada, July 2002

15. S. Baydere and M. A. Ergin, "A Model for Dynamic Service Discovery in Wireless Ad Hoc Networks", *Proceedings of the Sixth Symposium on Computer Networks*, pp. 120–128, Gazimagusa, Cyprus, June 2001

Technical Skills

Programming Skills

– Various advanced level programming in C, Java, Pascal, Fortran and Basic languages
– Systems programing in Linux user and kernel spaces
– Shell programming with BASH and TCL
– Server side web programming with PHP and JSP
– Portal design and web application integration with Apache Cocoon
– Experience in three-tiered programming in PHP, Apache httpd, MySQL environment
– Microprocessor programming in C and assembly (Motorola, Microchip, Atmel families)
– Numerical programming with MATLAB

Administration Skills

– Senior level administration of UNIX-based servers, running Apache, wu-ftpd, OpenSSH, SAMBA, DHCP, NIS, NFS, bind, qmail, sqwebmail, procmail, iptables, squid, snort, and tripwire
– Database administration of MySQL and Sybase ASA on Linux
– Network administration for various level hardware like layer-3 switches, routers and IEEE 802.11 variant wireless devices

Other Skills

– Extensive advanced use of Linux, Solaris, MS-DOS, and MS Windows 95/98/ME/NT/2000/XP
– Comprehensive wireless lab experience with spectrum analyzers, signal and traffic generators, scopes, power meters and antennas

Professional Memberships

- IEEE, Communication Society, Control Society and Computer Society Member, ACM Member, Turkish Linux Users Association Member

Awards

- Member of ORBIT Project Team, The Schwarzkopf Award from NSF IUCRC Association, 2008
- NSF Travel Award for MobiCom, 2008
- Fully Supported Graduate Assistant, Rutgers University, 2004-2008

Favorites

- Latin Dances (Former BUDANS Member), Stage Arts and Polyphonic Music, Guitar, Sound Systems and Acoustics

References

Prof. Dipankar Raychaudhuri

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Assist. Prof. Marco Gruteser

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