

Fatih Senel

CONTACT INFORMATION

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Owings Mills, MD 21117

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RESEARCH INTEREST

Design and Analysis of Algorithms, Optimization of Network-Related Problems, Wireless Ad Hoc and Sensor Networks, Topology Management, Node Placement Strategies

EDUCATION

University of Maryland, Baltimore County, Baltimore, Maryland

Ph.D. Candidate, Computer Science (Expected Graduation August 2012)
Thesis: Relay Node Placement for Federating Wireless Sensor Networks
Advisor: Dr. Mohamed Younis

Southern Illinois University, Carbondale, Illinois

M.S., Computer Science, May 2008

Bilkent University, Ankara, Turkey

B.S., Computer Science, May 2005

ACADEMIC EXPERIENCE

University of Maryland, Baltimore County, Baltimore, Maryland

Research Assistant, Computer Science, Aug 2008 - Present

- Connectivity establishment in structurally damaged Wireless Sensor Networks

Southern Illinois University, Carbondale, Illinois

Research Assistant, Computer Science, Aug 2007 - May 2008

- Clustering of Wireless Sensor and Actor Networks based on Sensor Distribution and Connectivity

Southern Illinois University, Carbondale, Illinois

Teaching Assistant, Computer Science, Jan 2007 - May 2007

JOURNALS

F. Senel and M. Younis, "Novel Relay Node Placement Algorithms for Establishing Connected Topologies," *IEEE/ACM Transactions on Networking*, (submitted).

F. Senel and M. Younis, "Relay Node Placement in Structurally Damaged Wireless Sensor Networks via Triangular Steiner Tree Approximation," *Computer Communications*, Vol. 34, No. 16, pp. 1932-1941, 2011.

F. Senel, M. Younis and K. Akkaya, "Bio-inspired Relay Node Placement Heuristics for Repairing Damaged Wireless Sensor Networks," *IEEE Transactions on Vehicular Technology*, Vol. 60, No. 4, pp. 1835-1848, 2011.

K. Akkaya, **F. Senel**, A. Thimmapuram and S. Uludag, "Distributed Recovery from Network Partitioning in Mobile Sensor/Actor Networks via Controlled Mobility," *IEEE Transactions on Computers*, Vol. 59, No. 2, pp. 258-271, 2010.

K. Akkaya, **F. Senel** and B. McLaughlan, "Clustering of Wireless Sensor and Actor Networks based on Sensor Distribution and Connectivity," *Journal of Parallel and Distributed Computing*, Vol. 69, No. 6, pp. 573-587, 2009.

K. Akkaya and **F. Senel**, “Detecting and Connecting Disjoint Sub-networks in Wireless Sensor and Actor Network,” *Ad Hoc Networks Journal*, Vol. 7, No. 7, pp. 1330-1346, 2009.

CONFERENCES

F. Senel and M. Younis, “Optimized Relay Node Placement for Establishing Connectivity in Sensor Networks”, in the *Proceedings of the 55th IEEE Global Telecommunications Conference (GLOBECOM'12)*, Anaheim, CA, December 2012 (to appear).

I. F. Senturk, K. Akkaya and **F. Senel**, “An Effective and Scalable Connectivity Restoration Heuristic for Mobile Sensor/Actor Networks”, in the *Proceedings of the 55th IEEE Global Telecommunications Conference (GLOBECOM'12)*, Anaheim, CA, December 2012 (to appear).

F. Senel and M. Younis, “Optimized Interconnection of Disjoint Wireless Sensor Network Segments Using K Mobile Data Collectors”, in the *Proceedings of the IEEE International Conference on Communications (IEEE ICC'12)*, Ottawa, ON, Canada, June 2012.

F. Senel and M. Younis, “Optimized Connectivity Restoration in a Partitioned Wireless Sensor Network”, in the *Proceedings of the 54th IEEE Global Telecommunications Conference (GLOBECOM'11)*, Houston, TX, December 2011.

F. Senel, M. Younis, K. Akkaya, “A Robust Relay Node Placement Heuristic for Structurally Damaged Wireless Sensor Networks”, in the *Proceedings of the 34th IEEE Conference on Local Computer Networks (LCN'09)*, Zürich, Switzerland, October 2009

K. Akkaya, A. Thimmapuram, **F. Senel** and S. Uludag, “Distributed Recovery of Actor Failures in Wireless Sensor and Actor Networks”, in the *Proceedings of the 31st IEEE Wireless Communications & Networking Conference (WCNC'08)*, Las Vegas NV, April 2008.

F. Senel, K. Akkaya and M. Younis, “An efficient mechanism for establishing connectivity in Wireless Sensor and Actor Networks”, in the *Proceedings of the 50th IEEE Global Telecommunications Conference (GLOBECOM'07)*, Washington DC, November 2007

PROFESSIONAL EXPERIENCE

Software Engineer

Havelsan A.S. Ankara, Turkey, Aug 2005 - Dec 2006

- Involved in Turkish Air Force Command and Control System - TuAF CCIS (\$200M project budget)
- Worked as a Java developer in the implementations of Short Range Air Defense (SHORAD) Planning and Flight Mission Planning System.
- Used Java(J2EE), JBoss, Oracle, CVS, XML, Ant, Rational Software

Software Developer - Part Time

Usta Software Ltd. Ankara, Turkey, Jan 2005 - Jun 2005

- Developed a finance program for mid-sized companies in order to follow-up their stock, flow of currency with Delphi and MSSQL

Software Developer - Intern

Tekstilbank A.S. Istanbul, Turkey, Jan 2005 - Jun 2005

- Developed a web-based ATM machine status follow-up system with JSP and Oracle

- COMPUTER SKILLS
- Languages: Java, C, C++, C#, PHP, HTML, SQL, JSP, XML, JavaScript, AJAX, Matlab, Wolfram Mathematica, UML, some use of Unix shell scripts
 - Applications: MS Office, CVS & Subversion, MS Visual Studio .NET, J2EE platform, Adobe Photoshop, Rational Clearquest, Weka, Crossbow Mica Motes, L^AT_EX, spreadsheet, and presentation software
 - Operating Systems: Unix/Linux, Windows
- HONORS AND AWARDS
- Graduate Research Assistantship, University of Maryland, Baltimore County, 2008-2011
- Graduate Teaching Assistantship, Southern Illinois University Carbondale, 2007
- Graduate Research Assistantship, Southern Illinois University Carbondale, 2007-2008
- Full Scholarship, (tuition remission, accomodation, stipend), Bilkent University, 2000-2005
- Nationwide University exam ranked 405 among 1,500,000 people, 2000
- Nationwide Lycee Entrance Exam ranked 1st in Karabuk and ranked 77th nationwide among app. 900,000 people, 1997
- REVIEWER FOR
- Ad hoc Networks Journal
 - Computer Communications Journal
 - IEEE ICC 2012, AHSN
 - WiSARN, Fall 2011
 - IEEE GLOBECOM 2008, AHSN
- EXTRACURRICULAR ACTIVITIES
- Founder and president of Bilkent Media Club, June 2004-May 2005
 - Vice president of Turkish Student Association (TSA) Student Club, Southern Illinois University Carbondale, Aug 2007 - May 2008
- REFERENCES
- Dr. Mohamed Younis
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Department of Computer Science and Electrical Engineering
younis@cs.umbc.edu
- Dr. Samuel J. Lomonaco, Jr.
University of Maryland Baltimore County
Department of Computer Science and Electrical Engineering
lomonaco@umbc.edu
- Dr. Kemal Akkaya
Southern Illinois University Carbondale
Department of Computer Science
kemal@cs.siu.edu