

Curriculum Vitae

Naeem Khademi

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1 General Information

1.1 Contact

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Google Scholar

1.2 Personal Details

Birth date: 2 September 1983
Sex: Male
Marital status: Single
Nationality: Iranian

2 Educational Background

- Ph.D. Computer Science, University of Oslo–Norway, 2010 – expected late-March/early-April of 2015.
 - *Research topic:* Wired and wireless (802.11) buffer control
 - *Main advisor:* Prof. Michael Welzl (michawe@ifi.uio.no)
 - *Co-advisor:* Prof. Stein Gjessing (steing@ifi.uio.no)
- M.Sc. Computer Networks, University Putra Malaysia–Malaysia, 2008 – 2010
 - *Thesis title:* Size-based and direction-based TCP fairness in 802.11 WLANs
 - *Advisor:* Prof. Mohamed Othman (mothmanupm@gmail.com)
- B.E. Computer Software, Kish University–Iran, 2002 – 2006

3 Research Activities

3.1 Areas of Interests and Expertise

- Transport layer research
 - Cross-layer interactions between transport and application/link layers in wired and Wi-Fi networks
 - Transport services and APIs
 - Congestion control (loss-based and delay-based)
 - * Congestion control for real-time multimedia
 - * Coupled congestion control
- TCP buffer management (e.g. in access links and core-routers, as well as wireless networks)
 - Active Queue Management (AQM) design and evaluation
 - Explicit Congestion Notification (ECN)
- Performance evaluation, optimization and analysis of Wi-Fi networks
 - Rate adaptation in 802.11 WLANs (e.g. AARF, SampleRate, Minstrel)
 - Access Point buffer management
- Network simulation (e.g. ns-2) and real-life network experimentation (e.g. emulab)

3.2 Academic Publications

- *Journal*
 1. Naeem Khademi, Mohamed Othman, “Size-Based and Direction-Based TCP Fairness Issues in IEEE 802.11 WLANs, EURASIP Journal on Wireless Communications and Networking, Article ID 818190, 2010
- *Conference Proceedings*
 1. Safiqul Islam, Michael Welzl, Stein Gjessing and Naeem Khademi, “Coupled Congestion Control for RTP Media”, Capacity Sharing Workshop (CSWS 2014), ACM SIGCOMM, Chicago, USA (**Best Paper Award**)
 2. Michael Welzl, Stein Gjessing and Naeem Khademi, “Less-than-Best-Effort Service for Community Wireless Networks: Challenges at Three Layers”, IEEE/IFIP WONS 2014, Obergurgl, Austria
 3. Naeem Khademi, David Ros and Michael Welzl, “The New AQM Kids on the Block: An Experimental Evaluation of CoDel and PIE”, Global Internet Symposium, IEEE INFOCOM 2014, Toronto, Canada
 4. Grenville Armitage, Naeem Khademi, “Using Delay-Gradient TCP for Multimedia-Friendly ‘Background’ Transport in Home Networks”, IEEE LCN 2013, Sydney, Australia
 5. Naeem Khademi, Michael Welzl and Stein Gjessing, “Experimental Evaluation of TCP Performance in Multi-rate 802.11 WLANs”, WoWMoM 2012, San Francisco, United States
 6. Naeem Khademi, Michael Welzl and Renato Lo Cigno, “On the Uplink Performance of TCP in Multi-rate 802.11 WLANs”, IFIP/TC6 NETWORKING 2011, Valencia, Spain

7. Naeem Khademi, Mohamed Othman, “Guaranteeing Per Station and Per Flow Fairness of Downstream and Upstream Flows over IEEE 802.11 WLAN”, pp.431-435, International Conference on Information and Multimedia Technology (ICIMT), 2009
8. Naeem Khademi, Mohamed Othman, “Least Attained Service Queue Management for ns-2 Network Simulator”, pp.317-321, Second International Conference on Computer Research and Development (ICCRD), 2010

– *Short Papers*

1. Michael Welzl, Gorry Fairhurst, Naeem Khademi, “Early ECN Marking”, ISOC Workshop on Reducing Internet Latency, 25-26 September 2013, London, England ([invitation-only workshop](#))
2. Naeem Khademi, “AP Buffer Sizing in IEEE 802.11 WLANs”, WoW-MoM 2012, San Francisco, United States

– *Thesis*

1. Naeem Khademi, “Size-based and Direction-based TCP Fairness Issues in IEEE 802.11 WLANs”, M.Sc. Thesis, Faculty of Computer Science and Information Technology, University Putra Malaysia, Selangor D.E, Malaysia, October 2009

– *Technical Reports*

1. Safiqul Islam, Michael Welzl, Stein Gjessing and Naeem Khademi, “Coupled Congestion Control for RTP Media”, University of Oslo, Department of Informatics Technical Report 440, 21 March 2014
2. Naeem Khademi, David Ros, and Michael Welzl, “The New AQM Kids on the Block: Much Ado About Nothing?”, University of Oslo, Department of Informatics Technical Report 434, 23 October 2013
3. Naeem Khademi, Grenville Armitage, “Minimising RTT across homogeneous 802.11 WLANs with CAIA Delay-Gradient TCP (v0.1)”, CAIA Technical report 121113A, 13 November 2012, Swinburne University of Technology, Australia
4. Naeem Khademi, “Establishing a multi-hop network testbed with 802.11 end-nodes using FreeBSD on Emulab”, CAIA Technical report 130618A, 18 June 2013, Swinburne University of Technology, Australia

3.3 Presentations/Talks

1. “The New AQM Kids on the Block: An Experimental Evaluation of CoDel and PIE”, Global Internet Symposium, IEEE INFOCOM 2014, Toronto, Canada
2. “AQM Evaluation Criteria and Scenarios”, AQM WG, IETF 88, Vancouver, Canada (audio – from 4:08:20)
3. “Evaluating CoDel, FQ_CoDel and PIE: how good are they really?”, ICCRG, IETF 88, Vancouver, Canada (audio – from 3:46:40)

4. “Experimental Evaluation of TCP Performance in Multi-rate 802.11 WLANs”, WoWMoM 2012, San Francisco, United States
5. “Experimental Evaluation of TCP Performance in Multi-rate 802.11 WLANs” (Trial presentation for WoWMoM’12), Centre for Advanced Internet Architectures (CAIA), Swinburne University of Technology, Australia
6. “On the Uplink Performance of TCP in Multi-rate 802.11 WLANs”, IFIP Networking’11, 10 May 2011, Valencia, Spain
7. “On the Performance of High Speed TCP Flavours in Multi-rate 802.11 WLANs”, KAUMesh, Karlstad University, 8 November 2010, Karlstad, Sweden
8. “Size-based and Direction-based TCP Fairness Issues in IEEE 802.11 WLANs”, M.Sc. Thesis Presentation

3.4 Internet Engineering Task Force (IETF) Activities

Drafts:

- N. Kuhn, P. Natarajan, D. Ros and N. Khademi, “AQM Characterization Guidelines”, I-D, September 8, 2014

IETF-meeting attendances: IETF 87 (Berlin), IETF 88 (Vancouver), IETF 89 (London), IETF 91 (Honolulu)

Interest in WGs: aqm, taps, tcpm, tsvwg, rmcat, iccrg, mptcp

3.5 Advising

- Tor Martin Slåen, “A tool for determining the rate-adaptation mechanism of 802.11 cards”, Master Thesis, 2010 – 2012

3.6 Academic Review Activities

Journals:

- ACM Sigcomm Computer Communication Review (ACM CCR)
- KSII Transactions on Internet and Information Systems (KSII)
- ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMCCAP)
- IEEE/ACM Transactions on Networking (IEEE/ACM ToN)
- IEEE Network Magazine (netmag)
- EURASIP Journal on Wireless Communications and Networking (JWCN)
- IEEE Communication Letters (IEEE CL)

Conferences:

- The 30th IEEE International Conference on Computer Communications (IEEE INFOCOM 2011)
- International Symposium on Wireless and Pervasive Computing (ISWPC 2011)
- The 31th IEEE International Conference on Computer Communications (IEEE INFOCOM 2012)
- IEEE Wireless Communications and Networking Conference (IEEE WCNC 2012)
- IFIP/TC6 Networking (NETWORKING 2012)
- The Thirteenth International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM 2012)
- Next Generation Networking and Internet Symposium (IEEE Globecom 2012)
- The 32th IEEE International Conference on Computer Communications (IEEE INFOCOM 2013)
- IEEE ICC 2013 - Next Generation Networking Symposium (IEEE ICC 2013)
- The 32th IEEE International Conference on Computer Communications (INFOCOM 2014)

3.7 Research Platforms

- NDlab 802.11 testbed

4 Teaching

- INF3190–Data Communication, UiO, Norway
 - Spring’2014
 - Spring’2013
 - Spring’2012
 - Spring’2011

5 Employment and Work Experience

1. “Stipendiat (PhD contract)”, Department of Informatics, University of Oslo, Oslo–Norway, August 2010 – present
2. “Microsoft SharePoint Service Provider”, CAS-IP, Bioversity International, Kuala Lumpur–Malaysia, 2008
3. “ICDL teacher”, Abtin Computer Learning Institution, Shiraz–Iran, 2007

6 Internships/Trainings/Research-Visits/Projects

1. “Visiting researcher”, Institut Mines/Télécom-Télécom Bretagne, Rennes, France, July 2013
2. “Visiting researcher”, Centre for Advanced Internet Architectures (CAIA), Swinburne University of Technology, Hawthorn, Victoria, Australia, May 2012 – December 2012
3. CAS-IP, Bioversity International, Kuala Lumpur-Malaysia ,2008

7 Top Skills

Algorithms, C/C++, Linux kernel networking stack (and to some degree with FreeBSD), ns-2, Tcl, Unix shell scripting, awk, LaTeX, html, xml, statistics