

CONTACT	Department of Electrical Engineering University of Southern California (USC) 3740 McClintock Ave, Los Angeles, CA 90089, USA	Tel: (+1) 310-848-7581 E-mail: alazaris@usc.edu www: alazaris.com
RESEARCH INTERESTS	Software Defined Networks; Traffic Modeling and Analysis; Machine Learning; Network Security.	
EDUCATION	<p><b>Ph.D. in Electrical Engineering</b>, University of Southern California, Los Angeles, CA, USA, August 2010 - Present.</p> <p><b>M.Sc. in Electronic and Computer Engineering</b>, Technical University of Crete, Chania, Greece, October 2006 - October 2008.</p> <ul style="list-style-type: none"> <li>• Thesis Title: Modeling and Call Admission Control for Wireless Videoconference Traffic.</li> </ul> <p><b>Diploma in Electronic and Computer Engineering</b>, Technical University of Crete, Chania, Greece, October 2000 - July 2006.</p> <ul style="list-style-type: none"> <li>• Thesis Title: Traffic Modeling for MPEG-4 Video Coders.</li> </ul>	
GRADUATE COURSEWORK	Design and Analysis of Algorithms, Data Mining Techniques, Advanced Computer Networks, Computer Security, Algorithms and Data Structures, Performance Evaluation of Computer Networks, Network Routing, Wireless Networks and Mobile Computing, Software and Hardware Engineering of Embedded Systems, Probabilistic Methods in Computer Systems Modeling, Wireless Networks, Engineering Statistics, Stochastic Network Optimization, Advanced Probability Theory, Advanced Computer Architecture, Theory of Estimation and Detection, Advanced Topics in Computer Networks, Advanced Analysis of Algorithms, Real Analysis, Applied Probability, Law and Intellectual Property in Engineering, Software Defined Networks, Combinatorial Analysis, Decision Making in Networked Systems.	
RESEARCH AND PROFESSIONAL EXPERIENCE	<p><b>Research Assistant</b> <span style="float: right;"><b>August 2010 - December 2014</b></span>                  University of Southern California, Los Angeles, CA, USA.</p> <ul style="list-style-type: none"> <li>• Automatic Switch Behavior Inference, Abstraction, and Optimization for Software Defined Networks (Python, OpenFlow, Ryu, Emulab, Hardware SDN Switches).</li> <li>• Development of an anomaly detection mechanism for aggregated network traffic using Bayesian regression techniques (R, Perl, OpenBUGS).</li> </ul> <p><b>Data Science Intern</b> <span style="float: right;"><b>May 2013 - August 2013</b></span>                  Pixalate, Inc, Santa Monica, CA, USA. Data scientist in the advanced ad-analytics group at Pixalate (a Santa Monica based startup).</p> <ul style="list-style-type: none"> <li>• Implementation of various mechanisms to analyze, and enhance the quality of the ad-analytics data, as well as implementation of several fraud detection algorithms (Google BigQuery, Amazon DynamoDB, Python, R, AWS, PHP, Javascript, ActionScript-3).</li> </ul> <p><b>Software Engineering Intern</b> <span style="float: right;"><b>May 2012 - August 2012</b></span>                  Cisco Systems, San Jose, CA, USA.                  Software engineer in the Advanced Architecture and Research group, working on the "Bufferbloat" project on the implementation and the evaluation of algorithms to overcome the problem of excessive buffering in the Internet. Responsibilities:</p> <ul style="list-style-type: none"> <li>• implementation and evaluation of new Active Queue Management (AQM) schemes in the Linux Kernel (kernel module development, and traffic control using TC)</li> <li>• implementation and configuration of a Linux network testbed for AQM evaluation</li> </ul>	

- implementation of a web based portal for the evaluation of the developed AQMs using visualizations and performance statistics (LAMPP, Javascript, Gnuplot, Bash).

**Software Engineering Intern**

**June 2011 - August 2011**

Alcatel-Lucent, Naperville, IL, USA.

Software engineer in the Mobile Trace Analysis team, working on the analysis of big data files taken from 4G LTE gateways with the aim of detecting the cause of failures in the network.

Responsibilities:

- implementation of a cloud-based application for storing the log-files in a MySQL database (Perl, LAMPP)
- implementation of a web portal for retrieving, analyzing and visualizing the log-files (R, Perl, PHP, JQuery, AJAX).

**Application Support**

**January 2008 - June 2008**

ATKOSoft S.A., “St. George” General Hospital, Chania, Greece.

- Application support for the hospital’s web-based information system and end-user training.

**Research Assistant**

**September 2006 - September 2008**

Technical University of Crete, Chania, Greece.

- Worked on MPEG-4 and H.264 video traffic modeling, Call-Admission-Control (CAC) algorithms, and Medium-Access-Control schemes for wireless cellular and satellite networks.

**Intern**

**July 2003 - August 2003**

Hellenic Telecommunications Organization (OTE S.A.), Lefkada, Greece.

- Worked at the Telephone Switching Center as a member of the technical support team.

TEACHING  
EXPERIENCE

**Teaching Assistant**

**August 2012 - December 2014**

Department of Electrical Engineering, University of Southern California, USA.

- EE-450: Computer Networks, Fall 2013, Fall 2014.
- EE-555: Broadband Network Architectures, Spring 2014.
- EE-465: Probabilistic Methods in Computer Systems Modeling, Fall 2012, Spring 2013.

**Teaching Assistant**

**September 2006 - July 2008**

Department of Electronic and Computer Engineering, Technical University of Crete, Chania, Greece.

- TEL-411: Computer Networks II, Spring 2007, Spring 2008.
- TEL-401: Computer Networks I, Fall 2006, Fall 2007.

**Instructor**

**September 2006 - June 2008**

AXON Global Education Network, Chania, Greece.

- Preparation of students for the Cambridge IT Skills exams (Microsoft Windows, Microsoft Office), and instructor of the C programming language.

PROFESSIONAL  
SOCIETIES

**IEEE** Student Member.

**IEEE Multimedia Communications Technical Committee (MMTC)** Voting Member.

**ACM** Student Member.

AWARDS

**Ericsson Award of Excellence in Telecommunications**, June 2007, for the best final year thesis at the Department of Electronic and Computer Engineering at Technical University of Crete for the academic year 2005 - 2006.

ACADEMIC  
FELLOWSHIPS

**USC Annenberg Graduate Fellowship Award**, Department of Electrical Engineering, Uni-

versity of Southern California, USA, 2010-2014.

**Graduate Fellowship**, Department of Electronic and Computer Engineering, Technical University of Crete, Greece, 2008.

#### TECHNICAL SKILLS

**Programming Languages:** Python, C, C++, Java, Perl, Tcl, Bash, Batch, Linux Kernel Programming.

**DataBases:** Google BigQuery, Amazon DynamoDB, MS-SQL, MySQL.

**Data Analysis Technologies:** Matlab, R, SPSS, SAS, Pandas, Weka, SciKit-learn, Map-Reduce, Hive.

**Networking:** OpenFlow, Ryu, Mininet, OVS, TC, Socket Programming, NS-2.

**Web Technologies:** PHP, (X)HTML, CSS, Javascript, JQuery, Actionscript-3, AJAX, XML, XSL, LAMP, AWS, Google App Engine.

#### PUBLICATIONS

##### Journal Papers

- [1] E. Maratsolas, P. Koutsakis, and **A. Lazaris**, "Activity-Based Video Traffic Policing: A New Paradigm", IEEE Transactions on Multimedia, vol.16, no.5, pp.1446-1459, Aug. 2014.
- [2] **A. Lazaris** and P. Koutsakis, "Modeling Multiplexed Traffic from H.264/AVC Videoconference Streams", Computer Communications Journal, Elsevier Publ, Vol. 33, No. 10, 2010, pp. 1235-1242.
- [3] A.M. Kholaf, T.D. Todd, P. Koutsakis and **A. Lazaris**, "Energy Efficient H.263 Video Transmission in Power Saving Wireless LAN Infrastructure", IEEE Transactions on Multimedia, Vol. 12, No. 2, 2010, pp. 142-153.
- [4] P. Koutsakis, M. Vafiadis and **A. Lazaris**, "A New Bandwidth Allocation Mechanism for Next Generation Wireless Cellular Networks", ACM Wireless Networks Journal, Vol. 16, No. 2, 2010, pp. 331-353.
- [5] **A. Lazaris** and P. Koutsakis, "Pricing - Based Call Admission Control for Wireless MPEG-4 Traffic", Computer Communications Journal, Elsevier Publ., Vol. 32, No. 17, 2009, pp. 1781-1789.
- [6] **A. Lazaris**, P. Koutsakis and M. Paterakis, "A new model for video traffic originating from multiplexed MPEG-4 videoconference streams", Performance Evaluation Journal, Elsevier Publ., Vol. 65, No. 1, 2008, pp. 51-70.  
*One of the 25 most cited articles published since 2007 in the Performance Evaluation journal (citations extracted from SciVerse Scopus).*

##### Conference Papers

- [1] **A. Lazaris**, D. Tahara, X. Huang, L.E. Li, A. Voellmy, Y.R. Yang, M. Yu, "Tango: Simplifying SDN Programming with Automatic Switch Behavior Inference, Abstraction, and Optimization", 10th ACM International Conference on emerging Networking EXperiments and Technologies (CoNEXT), Sydney, Australia, December 2014.
- [2] **A. Lazaris**, D. Tahara, X. Huang, L.E. Li, A. Voellmy, Y.R. Yang, M. Yu, "Jive: Performance Driven Abstraction and Optimization for SDN", Open Networking Summit (Research Track), Santa Clara, CA, March 2014.
- [3] I. Spanou, **A.Lazaris**, and P. Koutsakis, "Scene Change Detection-Based Discrete Autoregressive Modeling for MPEG-4 Video Traffic", to appear in Proc. of the IEEE ICC, Budapest, Hungary, June 2013.
- [4] C. Stamos, D. Vasileiadou, G. Koutsandria, I. Spanou, A. Vlachaki, **A. Lazaris** and P. Koutsakis, "User Satisfaction-Based Resource Allocation for GEO Satellites", in Proc. of the IEEE WoWMoM, San Francisco, CA, USA, June 2012.

- [5] **A. Lazaris** and P. Koutsakis, “Modeling Video Traffic from Multiplexed H.264 Videoconference Streams”, in Proc. of the IEEE GLOBECOM, New Orleans, USA, December 2008.
- [6] P. Koutsakis and **A. Lazaris**, “Integrating Multimedia Traffic with Strict QoS in Wireless Cellular Networks” (invited paper), in Proc. of the IEEE International Wireless Communications and Mobile Computing Conference (IWCMC), Limin Hersonissou, Crete, Greece, August 2008.
- [7] **A. Lazaris** and P. Koutsakis, “Revenue-Based Call Admission Control for MPEG-4 Wireless Videoconference Traffic”, in Proc. of the 1<sup>st</sup> IEEE Workshop on Mobile Video Delivery (MoViD, in conjunction with IEEE WoWMoM), Newport Beach, CA, USA, June 2008.
- [8] P. Koutsakis, M. Giannotta, A. Ianos and **A. Lazaris**, “Scheduling for H.264 Video Traffic over GEO Satellite Networks”, in Proc. of the 5<sup>th</sup> ACM International Workshop on Mobility Management and Wireless Access (MobiWAC), Chania, Greece, October 2007.
- [9] P. Koutsakis and **A. Lazaris**, “A New MAC Protocol Based on Multimedia Traffic Prediction in Satellite Systems”, in Proc. the 6<sup>th</sup> International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking (NEW2AN), St. Petersburg, Russia, May 2006.
- [10] **A. Lazaris**, P. Koutsakis and M. Paterakis, “On Modeling Video Traffic from Multiplexed MPEG-4 Videoconference Streams”, in Proc. of the 6<sup>th</sup> International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking (NEW2AN), St. Petersburg, Russia, May 2006.

PROFESSIONAL  
SERVICE  
ACTIVITIES

**Technical Program Committee Member for**

- IEEE ICC (CRN) 2012-2015.
- IEEE PECON 2012.
- IEEE ICCCT 2011-2013.
- IEEE ICCVE 2013-2014.
- IEEE ISCI 2013.
- IEEE ICCVE 2012
- IEEE ISWTA 2012-2013.
- IEEE ISIEA 2012.
- IEEE ICPCA 2009-2011.

**Publication Co-Chair**

- The Fourteenth International Symposium on a World of Wireless, Mobile and Multimedia Networks (IEEE WoWMoM 2013), Madrid, Spain, June 2013.

**Publicity Co-Chair for**

- “The IEEE Workshop on Video Everywhere (ViDEv)”, in conjunction with the IEEE WoWMoM, 2012, 2014, 2015.

**Reviewer for the International Journals**

- IEEE Journal on Selected Areas in Communications.
- Computer Communications Journal (Elsevier Publ).
- Pervasive and Mobile Computing Journal (Elsevier Publ).
- Simulation Modelling Practice and Theory (Elsevier Publ).
- Journal of Systems and Software (Elsevier Publ).

**Reviewer for the International Conferences**

- ACM SIGCOMM HotSDN 2014.
- IEEE INFOCOM 2012.
- IEEE MILCOM 2010
- IEEE PerCom 2009, 2010.
- IEEE ICC 2008, 2009, 2010.

- IEEE INFOCOM 2009 MoViD Workshop.
- IEEE ICCCN 2009.
- IEEE WMCNT 2009.
- IEEE LCN 2008, 2009.
- IEEE GLOBECOM 2007, 2008, 2009, 2010.
- IEEE MMSP 2007.

LANGUAGES

**English, Greek.**