

Simone Silvestri – Curriculum Vitae

Address	329 Rose Street 221 Davis Marksbury Bldg. Lexington, KY 40506-0633	Email	silvestri@cs.uky.edu
		Web	http://silvestri.engr.uky.edu/

Employment History

2021 - Present	Associate Professor, Director of Graduate Studies Department of Computer Science University of Kentucky
2017 - 2021	Assistant Professor Department of Computer Science University of Kentucky
2014 - 2017	Assistant Professor Department of Computer Science Missouri University of Science and Technology
2012 - 2014	Post-Doctoral Research Associate Department of Computer Science and Engineering Pennsylvania State University
2010 - 2012	Post-Doctoral Research Associate Department of Computer Science Sapienza University of Rome

Education

2010	Ph.D. in Computer Science Department of Computer Science Sapienza University of Rome, Italy
2006	Laurea cum Laude in Computer Science Department of Computer Science Sapienza University, Italy

Summary of achievements

■ Publications summary

- 30+ publications in international journals, including: IEEE Transactions on Networking, IEEE Transactions on Mobile Computing, and ACM Transactions on Sensor Networks.
- 50+ publications international conferences, including: IEEE INFOCOM, IEEE ICDCS and IEEE ICNP.

■ Grants summary

- More than \$5,000,000 in federal grants, with a personal share higher than \$2,000,000.
- Funding sources include NSF, NIFA, NATO and DTRA.

■ Awards

- NSF CAREER award, 2020
- Outstanding contribution in reviewing, Elsevier AdHoc Networks, 2018
- Outstanding contribution in reviewing, Elsevier JPDC, 2017
- Outstanding contribution in reviewing, Elsevier Computer Networks, 2015
- Italian Qualification as Associate Professor in Computer Science (01/B1), April 2014
- Best paper award, IEEE International Conference on Network Protocols (ICNP) 2009.
- Best student paper award, Sapienza University, 2009.

Research Interests

Cyber-Physical-Human Systems, Internet of Things, Smart Grid Security, Terrestrial and Aerial Mobile Networks, Network Management.

Research grants

Co-PI - NIFA Agriculture and Food Research Initiative (AFRI) - Award # 2020-07265

"Sustainable Precision Dairy Farming: Bridging Animal Welfare and Stakeholder Concerns about the use of Precision Dairy Technologies".

Amount awarded: \$999,506 (Jan. 2021 - May 2025).

Co-PI (20%) - NSF Smart and Connected Communities - Award # 1952045

"Smart Integrated Farm Network for Rural Agricultural Communities (SIRAC)".

Amount awarded: \$1,515,830 - including REU supplements for \$16,000 (Oct. 2020 - Sept. 2023).

PI (100%) - NSF CAREER award - Cyber-Physical Systems (CPS) - Award # 1943035

"Energy Management for Smart Residential Environments through Human-in-the-loop Algorithm Design".

Amount awarded: \$540,987 - including REU supplements for \$16,000 (Mar. 2020 - Feb. 2025).

PI (78%) - NSF Energy, Power, Control, and Networks - Award # 1936131

"Crosslayer Optimization of Energy and Cost through Unified Modeling of User Behavior and Storage in Multiple Buildings".

Amount awarded: \$364,340 - including REU supplements for \$31,000 (Sept. 2019 - Aug. 2022).

PI (60%) - NIFA - as part of NSF Cyber-Physical Systems - Award # 2017-67008-26145

"Integration of Social Behavioral Modeling for Smart Environments to Improve the Energy Efficiency of Smart Cities".

Amount awarded: \$802,981 (Feb. 2017 - Feb. 2021).

PI (100%) - NSF EPSCoR funded Missouri Transect - Award #1355406

"Autonomous Monitoring of Large Scale Agricultural Plants Through Unmanned Aerial Vehicles".

Amount awarded: \$71,055 (Aug. 2015 - Jul. 2019).

Co-PI (30%) - NSF Cyber-Physical Systems - Award #1545037

"Securing Smart Grid by Understanding Communications Infrastructure Dependencies".

Amount awarded: \$310,476 (Sep. 2015 - Aug. 2020).

Co-Director (22%) - NATO Science For Peace and Security - Award # SPS G4936

"Hybrid sensor networks for emergency critical scenarios".

Total amount awarded €400,000 (Sep. 2015 - Aug. 2019).

PI (100%) - Defense Threat Reduction Agency (DTRA), subcontract Pennsylvania State University

"Analysis and recovery of large-scale failures in interdependent networks".

Amount awarded: \$162,540 (Nov. 2014 - May. 2016).

List of publications

Book Chapters

- [1] S. Silvestri, B. Holbert, P. Novotny, T. La Porta, A. Wolf and A. Swami. Inferring Network Topologies in MANETs: Application to Service Redeployment in Advances in Computer Communications and Networks - from green, mobile, pervasive networking to big data computing, River Publisher, December 2016, ISBN: 9788793379879.

Journals

- [31] M. Cantor, E. Casella, S. Silvestri, D. Renaud, J. H. C. Costa.
Using machine learning and behavioral patterns observed by automated feeders and accelerometers for the early indication of clinical Bovine Respiratory Disease status in preweaned dairy calves
Frontiers in Animal Science, July 2022
- [30] J. Codispoti, A. R. Khamesi, N. Penn, S. Silvestri, E. Shin.
Learning from Non-Experts: An Interactive and Adaptive Learning Approach
for Appliance Recognition in Smart Homes
ACM Transactions on Cyber-Physical Systems, Vol. 6, Issue 2, 2022.
- [29] F. B. Sorbelli, C. M. Pinotti, S. Silvestri, S. K. Das.
Measurement Errors in Range-based Localization Algorithms for UAVs: Analysis and Experimentation
IEEE Transactions on Mobile Computing, Vol. 21, Issue 4, 2022.
- [28] A. Timilsina, A. R. Khamesi, V. Agate, S. Silvestri.
A Reinforcement Learning Approach for User Preference-aware Energy Sharing Systems
in IEEE Transactions on Green Communications and Networking, Vol. 5, Issue 3, 2021.
Special Issue on Green Internet of Things: Challenges and Future Opportunities.
- [27] S. Bhattacharjee, V. P. K. Madhavarapu, S. Silvestri, S. K. Das.
Attack Context Embedded Data Driven Trust Diagnostics in Smart Metering Infrastructure
ACM Transactions on Privacy and Security, Vol. 24, Issue 2, 2021.
- [26] K. Hazra, V. K. Shah, M. Bilal, S. Silvestri, S. K. Das, S. Nandi, S. Saha.
Designing Efficient Communication Infrastructure in Post-disaster Situations
with Limited Availability of Network Resources
in Elsevier Computer Communication Journal (COMCOM), Vol. 164, 2020.
- [25] E. Casella, A. R. Khamesi, S. Silvestri.
A Framework for the Recognition of Horse Gaits Through Wearable Devices
Elsevier Pervasive and Mobile Computing, Special Issue on Mobile and Social Sensing, Vol. 67, 2020
- [24] V. K. Shah, S. Silvestri, S. Bhattacharjee, S. K. Das.
A Diverse Band-Aware Dynamic Spectrum Access Network Architecture for
Delay-Tolerant Smart City Applications
IEEE Transactions on Network and Service Management, Vol. 17, Issue 2, 2020.
- [23] A. Sturaro, S. Silvestri, M. Conti, Sajal K. Das.
A Realistic Model for Failure Propagation in Interdependent Cyber-Physical Systems
in IEEE Transactions on Network Science and Engineering, Vol. 1, Issue 2, 2020.
Special Issue on Network Science for High -Confidence Cyber-Physical Systems.
- [22] A. Khamesi, S. Silvestri, D. Baker, A. De Paola.
Perceived-Value Driven Optimization of Energy Consumption in Smart Homes
in ACM Transactions on Internet of Things, Vol. 1, Issue 2, 2020.
- [21] E. Casella, M. Ortolani, S. Silvestri, S. K. Das.
Hierarchical syntactic models for human activity recognition through mobility traces
in Springer Personal and Ubiquitous Computing, 2019.
- [20] F. Restuccia, P. Ferrero, S. Silvestri, S. K. Das, G. Lo Re.
IncentMe: Effective Mechanism Design to Stimulate Crowdsensing Participants with Uncertain Mobility
in IEEE Transactions on Mobile Computing, Vol. 18, Issue 7, 2019.
- [19] V. K. Shah, S. Bhattacharjee, S. Silvestri, S. K. Das.
Designing Green Communication Systems for Smart & Connected Communities via Dynamic Spectrum Access
in ACM Transactions on Sensor Networks, Vol. 14, Issue 3-4, 2018.
- [18] S. Silvestri, R. Urgaonkar, M. Zafer, B. Ko.
A Framework for the Inference of Sensing Measurements based on Correlation
in ACM Transactions on Sensor Networks, Vol. 15, Issue 1, 2018.

- [17] F. Restuccia, P. Ferrero, S. Silvestri, S. K. Das, , G. Lo Re.
FIRST: A Framework for Optimizing Information Quality in Mobile Crowdsensing Systems
in ACM Transactions on Sensor Networks, Vol. 15, Issue 1, 2018.
- [16] F. B. Sorbelli, S. K. Das, C. M. Pinotti, S. Silvestri^(*).
Range based Algorithms for Precise Localization of Terrestrial Objects using a Drone
in Elsevier Pervasive and Mobile Computing, Vol. 48, 2018.
- [15] R. Zhang, S. Newman, M. Ortolani, S. Silvestri.
A Network Tomography Approach for Traffic Monitoring in Smart Cities
in IEEE Transactions on Intelligent Transportation Systems, Vol. 19, Issue 7, 2018.
Special issue on Advances in Smart and Green Transportation for Smart Cities
- [14] N. Bartolini, S. Ciavarella, S. Silvestri, T. La Porta.
On critical service recovery after massive network failures
in IEEE Transactions on Networking, Vol. 25, Issue 4, 2017.
- [13] N. Bartolini, T. Calamoneri, S. Ciavarella, S. Silvestri, T. La Porta.
Autonomous mobile sensor placement in complex environments
in ACM Transactions on Autonomous and Adaptive Systems, Volume 12, Issue 2, 2017.
- [12] S. Silvestri, K. Goss.
MobiBar: an autonomous deployment algorithm for barrier coverage with mobile sensors
in Elsevier Ad Hoc Networks, Vol. 54, pp. 111-129, 2017.
- [11] M. Lin, S. Silvestri, N. Bartolini, T. La Porta.
Selective Activation in Dense Femtocell Networks
in IEEE Transactions on Wireless Communications, Vol. 15, Issue 10, pp. 7018 - 7029, 2016.
- [10] S. Ciavarella, J.-Y. Joo, S. Silvestri.
Managing Contingencies In Smart Grids Via The Internet Of Things
in IEEE Transactions on Smart Grid, Vol. 7, Issue 4, pp. 2134-2141, 2016
- [9] N. Bartolini, S. Ciavarella, S. Silvestri, T. La Porta.
On the vulnerabilities of the Voronoi-based approach to mobile sensor deployment
in IEEE Transactions on Mobile Computing, Vol. 15, Issue 12, 2016.
- [8] B. Holbert, S. Tati, S. Silvestri, T. La Porta, A. Swami.
Network Topology Inference with Partial Path Information
in IEEE Transactions on Network and Service Management, Vol. 12, Issue 1, 2015.
- [7] N. Bartolini, G. Bongiovanni, T. La Porta, S. Silvestri^(*).
On the vulnerabilities of the virtual force approach to mobile sensor deployment
in IEEE Transactions on Mobile Computing, Vol. 13, Issue 11, 2014.
- [6] N. Bartolini, A. Massini, S. Silvestri^(*).
P&P: an Asynchronous and Distributed Protocol for Mobile Sensor Deployment
in Springer Wireless Networks Journal, Vol. 18 Issue 4, page 381, 2012.
- [5] N. Bartolini, T. Calamoneri, T. La Porta, C. Petrioli, S. Silvestri^(*).
Sensor Activation and Radius Adaptation (SARA) in Heterogeneous Sensor Networks
in ACM Transactions on Sensor Networks, Vol. 8, Issue 3, page 24, 2012.
- [4] N. Bartolini, T. Calamoneri, T. La Porta, S. Silvestri^(*).
Autonomous deployment of heterogeneous mobile sensors
in IEEE Transactions on Mobile Computing, Vol. 10, no. 6, page 753, 2011.
- [3] N. Bartolini, T. Calamoneri, A. Massini, S. Silvestri^(*).
On adaptive density deployment to mitigate the sink-hole problem in mobile sensor networks
in Springer Mobile Networks and Applications, Vol. 16, Issue 1, page 134, 2011.

- [2] N. Bartolini, T. Calamoneri, E. G. Fusco, A. Massini, S. Silvestri^(*).
Push&Pull: autonomous deployment of mobile sensors for a complete coverage
in Springer Wireless Networks Journal, Vol. 16, no. 3, Page 607, 2010.
- [1] N. Bartolini, G. Bongiovanni, S. Silvestri^(*).
Self-* through self-learning: overload control for distributed web systems
in Elsevier Computer Networks, Vol. 53, no. 5, page 727, 2009.

Proceedings of International Conferences and Workshops

- [53] R. Alden, A. Timilsina, S. Silvestri, D. Ionel.
V2G Optimization for Dispatchable Residential Load Operation and Minimal Utility Cost
in the IEEE Transportation Electrification Conference & Expo (ITEC 2023)
- [52] A. Timilsina, S. Silvestri.
Prospect Theory-inspired Automated P2P Energy Trading with Q-learning-based Dynamic Pricing
in the IEEE Global Communications Conference (GLOBECOM 2022)
- [51] E. Casella, E. Sudduth, S. Silvestri.
Dissecting the Problem of Individual Home Power Consumption Prediction using Machine Learning
in the IEEE International Conference on Smart Computing (SMARTCOMP 2022) - Work in Progress
- [50] M. Cantor, E. Casella, S. Silvestri, D. Renaud, J. H. C. Costa.
Using machine learning and precision livestock farming technology for early indication of health
status in preweaned dairy calves
in the European Conference on Precision Livestock Farming (ECPLF 2022)
- [49] E. Casella, M. C. Cantor, S. Silvestri, D. L. Renaud, J. H. C. Costa.
Cost-aware Inference of Bovine Respiratory Disease in Calves using Precision Livestock Technology
in the IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 2022)
- [48] E. Casella, A. R. Khamesi, S. Silvestri, D. A. Baker, S. K. Das.
HVAC Power Conservation through Reverse Auctions and Machine Learning
in the IEEE International Conference on Pervasive Computing and Communications (PerCom 2022)
- [47] A. R. Khamesi, S. Silvestri.
Reverse Auction-based Demand Response Program: A Truthful Mutually Beneficial Mechanism
in the IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS 2020)
- [46] A. R. Khamesi, R. Musmeci, S. Silvestri, D. A. Baker.
Reproducibility of Survey Results: A New Method to Quantify Similarity of Human Subject Pools
in the IEEE Global Communications Conference (GLOBECOM 2020)
- [45] S. M. Saghayan, T. La Porta, S. Silvestri, P. McDaniel.
Improving Robustness of a Popular Probabilistic Clustering Algorithm Against Insider Attacks
in the EAI International Conference on Security and Privacy in Communication Networks (SecureComm 2020)
- [44] E. Shin, A. R. Khamesi, Z. Bahr, S. Silvestri, D. A. Baker.
A User-Centered Active Learning Approach for Appliance Recognition
in the IEEE International Conference on Smart Computing (SMARTCOMP 2020)
- [43] V. Agate, A. Khamesi, S. Gaglio, S. Silvestri.
Enabling peer-to-peer User-Preference-Aware Energy Sharing Through Reinforcement Learning
in the IEEE International Conference on Communications (ICC 2020)
- [42] A. Khamesi, E. Shin, S. Silvestri.
Machine Learning in the Wild: The Case of User-Centered Learning in Cyber Physical Systems
in the IEEE International Conference on COMMunication Systems & NETWORKS (COMSNETS 2020)
- [41] A. Khalifeh, N. Bartolini, S. Silvestri, G. Bongiovanni, A. Al-Assaf, R. Alwardat, S. Alhaj-Ali.
Hybrid Wireless Sensor Networks: A Prototype
in the IFIP Conference on Human-Computer Interaction (INTERACT 2019)

- [40] V. K. Shah, S. Roy, S. Silvestri, S. K. Das.
Bio-DRN: Robust and Energy-efficient Bio-inspired Disaster Response Networks
in the IEEE International Conference on Mobile Ad-hoc and Smart Systems (MASS 2019)
- [39] E. Casella, A. R. Khamesi, S. Silvestri.
Smartwatch Application for Horse Gaits Activity Recognition
in the IEEE International Conference on Smart Computing (SMARTCOMP 2019)
- [38] V. K. Shah, S. Silvestri, B. Luciano, S. K. Das.
X-CHANT: A Diverse DSA based Architecture for Next-generation Challenged Networks
in IEEE International Conference on Computer Communications (INFOCOM 2019)
Acceptance rate: 19.7%
- [37] K. Hazra, V. K. Shah, M. Bilal, S. Silvestri, S. K. Das, S. Nandi, S. Saha.
A Novel Network Architecture for Resource-Constrained Post-Disaster Environments
in the IEEE International Conference on COMMunication Systems & NETworks (COMSNETS 2019)
- [36] V. K. Shah, Satyaki Roy, S. Silvestri, S. K. Das.
A Web Application for the Remote Control of Multiple Unmanned Aerial Vehicles
in the ACM Workshop on Emergency Response Technologies and Services (Emertes 2019)
- [35] R. Musmeci, K. Goss, S. Silvestri, G. Lo Re.
A Web Application for the Remote Control of Multiple Unmanned Aerial Vehicles
in the IEEE International Conference on Computing, Networking and Communications (ICNC 2019)
- [34] V. K. Shah, S. Bhattacharjee, S. Silvestri, S. K. Das.
An Effective Dynamic Spectrum Access based Network Architecture for Smart Cities
in the IEEE International Smart Cities Conference (ISC2 2018), (invited paper)
- [33] V. Dolce, C. Jackson, S. Silvestri, D. Baker, A. De Paola.
Social-Behavioral Aware Optimization of Energy Consumption in Smart Homes
in the IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 2018)
- [32] F. B. Sorbelli, S. K. Das, C. M. Pinotti, S. Silvestri.
On the Accuracy of Localizing Terrestrial Objects Using Drones
in the IEEE International Conference on Communications (ICC 2018)
- [31] F. B. Sorbelli, S. K. Das, C. M. Pinotti, S. Silvestri.
Precise Localization in Sparse Sensor Networks using a Drone with Directional Antennas
in the ACM International Conference on Distributed Computing and Networking (ICDCN 2018)
- [30] V. K. Shah, S. Bhattacharjee, S. Silvestri, S. K. Das.
Designing Sustainable Smart Connected Communities using Dynamic Spectrum Access via Band Selection
in the ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys 2017)
- [29] K. Goss, R. Musmeci, S. Silvestri.
Realistic Models for Characterizing the Performance of Unmanned Aerial Vehicles
in the IEEE International Conference on Computer Communications and Networks (ICCCN 2017)
- [28] S. Silvestri, D. Baker, V. Dolce.
Integration of Social Behavioral Modeling for Energy Optimization in Smart Environments
in the ACM International Workshop on Social Sensing (SocialSense 2017)
- [27] V. Shah, S. Roy, S. Silvestri and S. K. Das.
CTR: Cluster based Topological Routing for Disaster Response Network
in the IEEE International Conference on Communications (ICC 2017)
- [26] S. Bhattacharjee, A. Thakur, S. Silvestri and S. K. Das.
Statistical Security Incident Forensics against Data Falsification in Smart Grid Advanced Metering Infrastructure
in ACM Conference on Data and Applications Security and Privacy (CODASPY 2017)

- [25] N. Bartolini, S. Ciavarella, S. Silvestri, T. La Porta.
Network recovery after massive failures
in IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2016)
Acceptance rate: 20%
- [24] S. Silvestri.
Providing Ubiquitous Wireless Connectivity in Smart Cities through Dense Small Cell Deployment
in IEEE Smart Cities Workshop-Kansas City 2016, position paper
- [23] A. Sturaro, S. Silvestri, M. Conti, Sajal K. Das.
Towards a realistic model for failure propagation in interdependent networks
in IEEE International Conference on Computing, Networking and Communications (ICNC 2016)
- [22] M. Lin, S. Silvestri, N. Bartolini, T. La Porta.
Energy-Efficient Selective Activation in Femtocell Networks
in IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS 2015)
Acceptance rate: 26%
- [21] S. Silvestri, B. Holbert, P. Novotny, T. La Porta, A. Wolf and A. Swami.
Inferring Network Topologies in MANETs Applied to Service Redeployment
in IEEE International Conference on Computer Communication and Networks (ICCCN 2015)
Acceptance rate: 25%
- [20] S. Silvestri, R. Uргаonkar, M. Zafer, B. Ko.
An online method for minimizing network monitoring overhead
in IEEE International Conference on Distributed Computing Systems (ICDCS 2015)
Acceptance rate: 12.8%
- [19] B. Holbert, S. Tati, S. Silvestri, T. La Porta, A. Swami.
Network Topology Inference with Partial Path Information
in IEEE International Conference on Computing, Networking and Communications (ICNC 2015)
- [18] S. Tati, S. Silvestri, T. He, T. La Porta.
Robust Network Tomography in the Presence of Failures
in IEEE International Conference on Distributed Computing Systems (ICDCS 2014)
Acceptance rate: 13%
- [17] N. Bartolini, G. Bongiovanni, T. La Porta, S. Silvestri, F. Vincenti^(*).
Voronoi-based Deployment of Mobile Sensors in the Face of Adversaries
in IEEE International Conference on Communications (ICC 2014)
- [16] B. Holber, S. Tati, S. Silvestri, A. Swami, T. La Porta.
Effects of Partial Topology on Fault Diagnosis
in IEEE Military Communications Conference (MILCOM 2013)
- [15] N. Bartolini, G. Bongiovanni, T. La Porta, S. Silvestri^(*).
On the security vulnerabilities of the virtual force approach to mobile sensor deployment
in IEEE Conference on Computer Communications (INFOCOM 2013)
Acceptance rate: 17.4%
- [14] S. Silvestri.
MobiBar: Barrier Coverage with Mobile Sensors
in IEEE Global Communications Conference (GLOBECOM 2011)
Acceptance rate: 36.6%
- [13] N. Bartolini, T. Calamoneri, T. La Porta, S. Silvestri^(*).
Mobile sensor deployment in unknown fields
in IEEE Conference on Computer Communications (INFOCOM mini-conference 2011)
- [12] L. Benini, D. Brunelli, C. Petrioli, S. Silvestri^(*).
GENESI: Green sEnSOr NEtworks for Structural monIToring”, (Poster)
in IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON 2010)

- [11] N. Bartolini, T. Calamoneri, T. La Porta, A. Massini, S. Silvestri^(*).
Autonomous deployment of heterogeneous mobile sensors
in IEEE Conference on Network Protocols (ICNP 2009) - **Best paper award**
Acceptance rate: 18.2%
- [10] E. Gelenbe, S. Silvestri^(*).
Optimisation of Power Consumption in Wired Packet Networks
in ICST Workshop on Advanced Architectures and Algorithms for Internet
Delivery and Applications (AAA-IDEA 2009)
- [9] E. Gelenbe, S. Silvestri^(*).
Reducing Power Consumption In Wired Networks
in IEEE Symposium on Computer and Information Sciences (ISCIS 09)
- [8] N. Bartolini, A. Massini, S. Silvestri^(*).
P&P protocol: local coordination of mobile sensors for self-deployment
in ACM Conference on Modeling Analysis and Simulation of Wireless and Mobile Systems (MSWIM 2009)
Acceptance rate: 23.5%
- [7] N. Bartolini, T. Calamoneri, A. Massini, S. Silvestri^(*).
Variable density deployment and topology control for the solution of the sink-hole problem
in ICST Conference on Heterogeneous Networking for Quality, Reliability,
Security and Robustness (QShine 2009)
- [6] N. Bartolini, T. Calamoneri, E. G. Fusco, A. Massini, S. Silvestri^(*).
Autonomous deployment of self-organizing mobile sensors for a complete coverage
in IEEE Workshop on Self-Organizing Systems (IWSOS 2008)
- [5] N. Bartolini, G. Bongiovanni, S. Silvestri^(*).
Self-* overload control for distributed web systems
in IEEE Workshop on Quality of Service (IWQoS 2008)
Acceptance rate: 35.6%
- [4] N. Bartolini, T. Calamoneri, E. G. Fusco, A. Massini, S. Silvestri^(*).
Snap Spread: a self-deployment algorithm for mobile sensor networks”, (short paper)
in IEEE Conference on Distributed Computing in Sensor Systems (DCOSS 2008)
- [3] N. Bartolini, G. Bongiovanni, S. Silvestri^(*).
An autonomic admission control policy for distributed web systems
in IEEE/ACM Symposium on Modeling, Analysis, and Simulation of Computer and
Telecommunication Systems (MASCOTS 2007). Acceptance rate: 33.2%
- [2] N. Bartolini, G. Bongiovanni, S. Silvestri^(*).
Distributed Server Selection and Admission Control in Replicated Web Systems
in IEEE Symposium on Parallel and Distributed Computing, (ISPDC 2007)
- [1] N. Bartolini, G. Bongiovanni, S. Silvestri^(*).
An Adaptive Admission Control Policy for Geographically Distributed Web Systems
in ACM Conference on Scalable Information Systems (INFOSCALE 2007)

(*) Authors' names in alphabetical order.

Invited Seminars and Panels

- [2023] “Challenges and Opportunities for Machine Learning Applied to Smart Residential Energy Systems”
Short Term Training Programme on Machine Learning for IoT Edge Computing
Heritage Institute of Technology, India
- [2023] “Writing NSF Proposals for Early Career Faculty”
Proposal Development Office, University of Kentucky

- [2022] “Energy Management for Smart Residential Environments through Human-in-the-loop Algorithm Design”
CAREER Panel Member, NSF CPS PI meeting, Alexandria, VA
- [2022] “Internet of Agricultural Things: How Computer Science Can Help Next Generation Farming”
IEEE International Workshop on Wireless Sensor, Robot, and UAV Networks, Bologna, Italy
- [2021] “NSF CAREER Workshop”
Proposal Development Office, University of Kentucky
- [2020] “Cyber-Physical-Human Systems: From Human Perception to Computational Problems”
University of Missouri Science and Technology, Computer Science, Rolla, MO
- [2020] “Cyber-Physical-Human Systems: From Human Perception to Computational Problems”
University of Missouri, Electrical and Computer Engineering, Columbia, MO
- [2020] “Machine Learning in the Wild: The Case of User-Centered Learning in Cyber Physical Systems”
IEEE/ACM International Conference on COMmunication Systems & NETworkS (COMSNETS), Bengaluru, India
- [2019] “Social-Behavioral Modeling and Optimization of Residential Energy Management Systems”
Marquette University, Electrical and Computer Engineering, Milwaukee, WI
- [2018] “Advances and Challenges in Agricultural Cyber-Physical Systems”
Panel Member, NSF CPS PI meeting, Alexandria, VA
- [2018] “Social-behavioral aware Design and Optimization of Cyber-Physical-Human Systems”
University of Kentucky, Electrical and Computer Engineering, Lexington, KY
- [2018] “Social-behavioral aware Design and Optimization of Cyber-Physical-Human Systems”
Colorado School of Mines, Golden, CO
- [2018] “Social-Behavioral Aware Optimization of Energy Consumption in Smart Homes”
St. Louis University, St. Louis, MO
- [2017] “Social-Behavioral Aware Optimization of Cyber Physical Systems”
University of Louisville - Informs., Louisville, KY
- [2017] “Social-Behavioral Aware Optimization of Cyber Physical Systems”
Los Alamos National Laboratory (LANL), Los Alamos, NM

Teaching activity

Spring 2022	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2021	CS-316 Web Programming	Undergraduate level
Spring 2021	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2020	CS-686 Complex networks	Graduate level

Spring 2020	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2019	CS-686 Complex networks	Graduate level
Spring 2019	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2018	CS-686 Complex networks	Graduate level
Spring 2018	CS-371 Intro. to Computer Networks	Undergraduate level
Fall 2017	CS-685 Cognitive Computing	Graduate level
Spring 2017	CS-2500 Algorithms	Undergraduate level
Spring 2016	CS-6001 Complex networked systems	Graduate level
Fall 2015	CS-2500 Algorithms	Undergraduate level
Spring 2015	CS-6001 Complex networked systems	Graduate level
Fall 2014	CS-2500 Algorithms	Undergraduate level

Advised Students

Graduated students

Enrico Casella Ph.D. Graduated Spring 2023
Thesis title :“Machine-Learning-Powered Cyber-Physical Systems”

Ashtuoth Timilsina Ph.D. Graduated Spring 2023
Thesis title :“Peer-to-Peer Energy Trading in Smart Residential Environments with User Behavioral Modeling”

Seifalla Moustafa M.S. Graduated Spring 2020
Report title :“Development of a simulator for a residential energy sharing market”

Vijay Shah Ph.D. Graduated Summer 2019 - now Research Assistant Professor, Virginia Tech
Thesis title :“ A Diverse Band-aware Dynamic Spectrum Access Architecture for Connectivity in Rural Communities”

Joedocei Hill M.S. Graduated Spring 2018
Report title :“Realistic Models For Characterizing The Performance of Unmanned Aerial Vehicles”

Ruoxi Zhang M.S. Graduated Spring 2018
Thesis title :“A Network Tomography Approach for Traffic Monitoring in Smart Cities”

Maria Angelin M.S. Graduated Summer 2017
Thesis title :“Multi Stage Recovery from Large Scale Failures in Interdependent Networks”

Students' Awards and Achievements

[03-2023] Xu Tao, Ashutosh Timilsina, and Enrico Casella received a travel award to attend IEEE PerCOM IEEE International Conference on Pervasive Computing and Communications

[10-2022] Enrico Casella won first place for their poster presentation at the 2022 Commonwealth Computational Summit

[03-2020] Eura Shin receives the NSF Graduate Research Fellowship National Science Foundation

[12-2019] Eura Shin selected for Honorable Mention CRA Outstanding Undergraduate Researcher Award

[05-2019] Enrico Casella received a travel award to attend IEEE SMARTCOMP 2019 IEEE International Conference on Smart Computing

- [05-2019] Vijay Shah received a travel award to attend IEEE SECON 2019
IEEE International Conference on Sensing, Communication and Networking
- [05-2019] Eura Shin received the Goldwater Scholarship
Barry Goldwater Scholarship and Excellence in Education Foundation
- [04-2019] Seun Adekunle - visiting high school student - won second place for his poster
KY State Science Fair, Energy: Physical category
- [03-2019] Vijay Shah received the Outstanding Graduate Student (PhD) award
Computer Science Department, University of Kentucky
- [12-2018] Vijay Shah received a travel award to attend IEEE COMSNETS 2019
IEEE International Conference on COMMunication Systems & NETWORKS
- [11-2018] Brian Luciano (undergraduate) won the first place for his poster presentation at the
2018 Kentucky Academy of Science Annual Meeting
- [10-2018] Vijay Shah and Atieh Khamesi won first place for their poster presentation at the
2018 Commonwealth Computational Summit
- [06-2017] Vijay Shah received a travel award to attend ACM SenSys/BuildSys 2017
ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation
- [03-2017] Vijay Shah received a travel award to attend ACM WiSec 2017
ACM Conference on Security and Privacy in Wireless and Mobile Networks
- [05-2016] Vijay Shah received a travel award to attend IEEE PerCom 2016
IEEE International Conference on Pervasive Computing and Communications

Visiting students

Fall 2018	Vincenzo Agate	Visiting Ph.D. Student, University of Palermo, Italy
Spring 2017	Enrico Casella	Visiting M.S. Student, University of Palermo, Italy
Fall 2016	Valeria Dolce	Visiting M.S. Student, University of Palermo, Italy
Spring 2016	Riccardo Musmeci	Visiting M.S. Student, University of Palermo, Italy
Spring 2015	Stefano Ciavarella	Visiting Ph.D. Student, Sapienza University, Italy
Spring 2015	Agostino Sturaro	Visiting M.S. Student, Padua University, Italy

Professional activities

Society Affiliations

- Institute of Electrical and Electronics Engineers (IEEE) Senior Member
- Association for Computing Machinery (ACM) Lifetime Member

Proposal review

- National Science Foundation panelist
- National Institute of Food and Agriculture
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Defense Threat Reduction Agency (DTRA)
- Russian government program attracting leading scientists to Russian universities

Conference organization

2023	Work in Progress Co-Chair of the conference IEEE PerCom
2023	Technical Program Committee (TCP) Co-Chair of the conference IEEE DCOSS
2022	Technical Program Committee (TCP) Co-Chair NSF CPS PI Meeting
2022	Technical Program Committee (TCP) Co-Chair of the conference IEEE SECON
2022	General Co-Chair of the conference IEEE ICNP
2022	Technical Program Committee (TCP) Co-Chair of the conference IEEE SMARTCOMP
2022	Workshop Co-Chair of the conference IEEE DCOSS
2022	Program Co-Chair of the workshop ACM Emerates
2021	Short Papers, Posters & Demos Co-Chair of the conference IEEE WiMob
2020	Program Committee NSF CPS PI Meeting
2021	Work in Progress and Demo Co-Chair of the conference IEEE SMARTCOMP
2020	Short Papers, Posters & Demos Co-Chair of the conference IEEE WiMob
2020	Finance Chair of the conference IEEE SECON
2020	Program Co-Chair of the workshop ACM Emerates
2019	Finance Chair of the conference IEEE SECON
2019	Poster Co-Chair of the conference IEEE DCOSS
2019	Publicity Chair of the conference ACM MobiHoc
2019	Program Co-Chair of the workshop ACM Emerates
2016	Program Co-Chair of the IEEE PerCom workshop IQ2S
2009	Publicity Chair of the conference ICST QShine
2009	Publicity Chair of the conference ICST AAA-IDEA

Editorial Boards

2023 - now	Editorial Board of Elsevier Computer Networks (COMNET)
2022 - now	Editorial Board of Elsevier Ad Hoc Networks (ADHOC)
2018 - now	Editorial Board of Elsevier Pervasive and Mobile Computing (PMC)

Technical Program Committees (TPC) - partial list

IEEE INFOCOM	2023, 2022, 2021, 2020, 2018, 2017, 2016
IEEE ICDCS	2022
IEEE DCOSS	2022, 2021
IEEE MASS	2023, 2022
ACM EWSN	2023,2022
IEEE ICDCN	2022

IEEE/ACM COMSNETS	2023, 2022, 2021
IEEE CCNC	2023, 2022, 2021
IEEE GLOBECOM	2022, 2021, 2020, 2019, 2018, 2017, 2016, 2014, 2013, 2012, 2011, 2010
IEEE ICC	2023, 2022, 2021, 2020, 2018, 2017, 2016, 2014, 2013, 2012
IEEE 5G World Forum	2020, 2019, 2018
IEEE LCN	2023,2022, 2021, 2017, 2016, 2015
IEEE BigData	2020
IEEE PIMRC	2020
IEEE SMARTCOMP	2020, 2019, 2018, 2017, 2016, 2014
IEEE/ACM IWQoS	2023,2022, 2021, 2020
IEEE ICDCS - PhD symp.	2020
IEEE REFRESH	2020
IEEE/IFIP NOMS	2022, 2020
IEEE 5G World Forum	2019
IEEE WCNC	2023, 2022, 2020, 2019
IEEE NetSoft	2020, 2019
IEEE WoWMOM	2023, 2022, 2021, 2019, 2018
IEEE VTC	2019, 2018
IEEE MILCOM	2017, 2016
IFIP Wireless Days	2018, 2017, 2016
IEEE SECON	2023, 2016
EAI S-Cube	2017,2016, 2015
IEEE ICCCN	2019,2015
IEEE ICNP	2015, 2014
IEEE ICNC	2023, 2020, 2019, 2018, 2017, 2016, 2014, 2012
MobiSPC	2016, 2015
IEEE WiSARN	2018, 2017, 2014
SENSORCOMM	2014, 2013, 2012, 2011, 2010
ICNS	2013, 2012

Journal reviewer - partial list

ACM Transactions on Sensor Networks

IEEE Transactions on Mobile Computing

Elsevier Journal of Parallel and Distributed Computing

IEEE Transactions on Parallel and Distributed Systems

Elsevier Computer Networks

Elsevier Computer Communications

ACM/Springer Wireless Networks

Oxford Computer Journal

ACM Transactions on Internet Technology

Journal of Sensors

Department and University service

2022 - now Director of Graduate Studies - University of Kentucky, Computer Engineering

2022 - now Member of the Executive Committee - University of Kentucky, Computer Science

2022 - now Member of the Engineering Research Team - University of Kentucky, College of Engineering

2021 - now Director of Graduate Studies - University of Kentucky, Computer Science

2020 - 2021 Member of the Recruiting Team - University of Kentucky, College of Engineering

2018 - 2021 Chair of the Media & Outreach Committee - University of Kentucky, Computer Science

2017 Faculty Search Committee - University of Kentucky, Electrical and Computer Engineering

2017 - 2018 Media& Outreach Committee - University of Kentucky, Computer Science

2016 Undergraduate Committee - Missouri S&T, Computer Science

2015 - 2016 Colloquia Coordinator - Missouri S&T, Computer Science

2015 - 2016 Peer Teaching Evaluation Committee - Missouri S&T, Computer Science

2015 Faculty Search Committee - Missouri S&T, Computer Science