Shuai Zhao

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RESEARCH INTERESTS

Network Monitoring and Management, Network Routing, Network Security, Big-data Analysis, Apache Hadoop, Storm, Kafka, Machine Learning, Data Visualization, Network Virtualization, Cloud Computing, Algorithm Design, Software-defined Networking, VR/AR/360 streaming, MPEG-System standards

EDUCATION

University of Missouri - Kansas City, Kansas City, MO USA

Ph.D., Telecommunication and computer networks, 2012 - 2017

- Dissertation Topic: "Application-Aware Network Management and Monitoring Using Software-defined Networking"
- Advisor: Professor. Deep Medhi

M.S., Computer Science, Aug 2009 - Dec 2011

Heze University, Heze, Shandong China

B.S., Applied Mathematics, May, 2008

HONORS AND AWARDS

ACM Student Competition Award, August 2016

NSF Scholarship from UMKC, 2012-2016

CSEE Instructor Support Awrd F/Sp 2014-2016

UMKC Doctoral NR Award, 2012-2016

CCNA Certificate, 2015

ACADEMIC EXPERIENCE

University of Missouri - Kansas City, Kansas City, MO USA

Graduate Assistant   **Spring, 2012 - present**
Member of UMKC NetRel Research Lab

- Project leader of campus network management and monitoring.
- Design Django webapp for visualizing campus network traffic.
- Script management for automatically collecting network data from various campus management tools, such as vSphere, Cisco NetFlow protocol, etc.
- Postgresql database management.
- Big-data analysis using Hadoop, Storm, Kafka and Python.
- Design machine learning using Mahout.

Lecture Instructor   **Fall, 2014 - Fall 2015**

- CS423 Client-Server Programming Instructor: 25 students
- CS5590 Discrete Mathematics Instructor: 70 students

Teaching Assistant   **Fall, 2014 - Fall 2015**

- CS394 Probability and Statistics.
- CS404 Introduction to Algorithm Design.
- CS291 Discrete Mathematics.
- CS5592 Data Structure and Algorithm Design

- CS5529 Network Routing
- Shared responsibility for lectures, exams, homework assignments, project assignment and grades.

PROFESSIONAL EXPERIENCE	**MediaTek USA Inc**, San Jose, CA USA

MediaTek USA Inc, San Jose, CA USA
Senior Engineer   **Jan, 2017 - Present**

- Develop advanced video streaming algorithm for VR/AR/360 and other rich content streaming
- Content delivery prototype design and development
- DASH, MMT, and MPEG-Systems prototyping and concept validation, standards proposal and contribution.

MediaTek USA Inc, San Jose, CA USA
Video and Vision Processing Internship   **May, 2016 - August, 2016**

- Video coding and processing
- Image processing
- Computer vision and machine learning
- Android Developement

Raytheon BBN Technology, Cambridge, MA USA
Network Engineer Internship   **May, 2015 - August, 2015**

- Hadoop deployment, automation using GENI platform
- Application-aware network experiment
- Hadoop application optimization using Software-defined networking
- SDN northbound API application implementation
- Data mining, Big data analysis using python

FutureWei Technologies, Inc, Santa Clara, CA USA
Network Research Internship   **Jan, 2014 - June, 2014**

- Application design, simulation and implementation on top of Content-Centric Networking using OpenStack
- Enable OpenStack coordination with Floodlight OpenFlow Controller to program and enable ICN services.
- Deploy RESTApi for ICN network resources management.

Lenovo, Beijing, China
Argumented Reality Developer   **May, 2013 - August, 2013**

- Augmented Reality android application design and implementation
- Developed Python tools for web data mining

COMPUTER SKILLS
- Languages: Python(5 years), C++ (4 years), shell scripts (5 years), Javascript (2 years), Java (1 year),
- Open Source Web Design Framework: Django, D3.js
- Database Application: Postgresql, Mysql, Spreadsheet.
- Operating Systems: MacOS/Unix/Linux, Windows.
- Network Simulator: NS-3,
- BigData/Machine Learning: Tensorflow, Hadoop, Spark, MongoDB, Python Library
- VR//360: Google DayDream, Unity Engine, WebVR, OSVR HDK2, Visual Studio, Android Studio

19 Conference TPC member	• The 2018 ACM MMSys: ACM Multimedia Systems Conference • The 2018 IEEE NOMS: IFIP/IEEE Network Operations and Management Symposium • The 2018 IEEE WF-5G: IEEE 5G World Forum (5GWF18) • The 2018 IEEE WCNC: IEEE Wireless Communications and Networking Conference • The 2018 IEEE CCNC: IEEE Consumer Communications and Networking Conference (CCNC) • The 2017 IEEE IINTEC: International Conference on Internet of Things, Embedded Systems and Communications • The 2017 IEEE ICNC: International Conference on Computing, Networking, and Communications • The 2017 IEEE NFV-SDN: Network Function Virtualization and Software Defined Networks • The 2017 IEEE ICIIP: International Conference on Image Information Processing • The 2017 IEEE Globecom: Communications software, services, and multimedia application symposium • The 2017 IEEE ANTS: International Conference on Advanced Networks and Telecommunications Systems • The 2017 IEEE NetCom: International Conference on Networks and Communications • The 2017 IEEE NoF: International Conference on the Network of the Future • The 2017 IEEE ICCC: International Conference on Computer and Communications • The 2017 IEEE WPMC: International Symposium on Wireless Personal Multimedia Communications • The 2017 IEEE ICUMT: International Congress on Ultra Modern Telecommunications and Control Systems • The 2017 IEEE CYBERNETICSCOM: International Conference on Computational Intelligence and Cybernetics • The 2017 IEEE IPCCC: International Performance Computing and Communications Conference • The 2017 IEEE CNSM: International Conference on Network and Service Management
3 Designated Reviewer	• The 2018 IEEE ICC: International Conference on Communications • The 2017 IEEE VCIP: Visual Communications and Image Processing • The 2017 ATDA: International Symposium on Assistive Technologies for the Differently Abled
Paper Under Reivew	S Zhao, G Muppala, Z Li, and D Medhi, Improving QoE with DASH Streaming using SDN-based Application-Aware Networking, 2018 IEEE ICNC
1 Published Journals	S Zhao, and Deep Medhi, Application-Aware Network Design for MapReduce Optimization Using Software-Defined Networking, IEEE Transactions on Network and Service Management.
14 Published Papers	S Zhao, Deep Medhi, Tile-based streaming with MPEG-DASH using Software-defined Network, 2017 IEEE NFV-SDN R Abhishek, S Zhao, D Tipper, D Medhi, SeSAMe: Software Defined Smart Home Alert Management System for Smart Communities, 2017 IEEE International Symposium on Local and Metropolitan Area Networks (LANMAN) S Zhao, L Zhu, M Deep, L PoLin, L Shan, Study of User QoE Improvement for Dynamic Adaptive Streaming over HTTP (MPEG-DASH), 2017 International Conference on Computing, Networking and Communications (ICNC): Multimedia Computing and Communications - Multimedia Computing and Communications, Jan 2017, Santa Clara USA S Zhao, Ali Sydney, Deep Medhi, Build Application-Aware Network Environment Using SDN For Hadoop Application Optimization, ACM SIGCOMM 2016 S Zhao, Zhu Li, D Medhi, Low Delay MPEG DASH Streaming over the WebRTC Data Channel, International Conference on Multimedia and Expo Workshops, July, 2016, Seattle USA S Zhao, Zhu Li, D Medhi, Low Delay Streaming of DASH Content with WebRTC Data Channel, 2016 IEEE 24th International Symposium on Quality of Service (IWQoS), June, 2016, Beijing China

Z Li, S Zhao, D Medhi, I Bouazizi, Wireless Video Traffic Bottleneck Coordination with a DASH SAND Framework, The IEEE International Conference on Visual Communications and Image Processing (VCIP), Nov 2016, China

R Abhishek, S Zhao, S Song, BY Choi, H Zhu, D Medhi, BuDDI: Bug Detection, Debugging, and Isolation Middlebox for Software-Defined Network Controllers, 12th International Conference on Network and Service Management, Nov 2016, Canada

R Abhishek,S Zhao, D Medhi, SPArTaCuS: Service Priority Adaptiveness for Emergency Traffic in Smart Cities using Software-Defined Networking, 2016 IEEE International Smart Cities Conference (ISC2), Trento, Italy

S Zhao, C Mayanka, L Yugung, D Medhi, Real Time Network Anomaly Detection Using Machine Learning Technology, 11th International Conference on Design of Reliable Communication Networks, Kansas City MO, USA, March 2015

Luis Russi, Carlos R. Senna, Edmundo R. M. Madeira, Xuan Liu, S Zhao, and Deep Medhi, Hadoop-in-a-Hybrid-Cloud, 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Chicago, USA, 2014

A Chakraborti, V Rajaraman,S Zhao, A Azgin, R Ravindran, G Wang, Demo overview: multi-party conference over virtual service edge router (VSER) platform, Proceedings of the 1st international conference on Information-centric networking, Paris, France, Sep 2014

S Zhao, K. Leftwich, M. Owens, F. Magrone, J. Schonemann, B. Anderson, D. Medhi, I-CaN-MaMa: Integrated Campus Network Monitoring and Management, the proceeding of 14th IEEE/IFIP Network Operations and Management Symposium, Krakow, Poland, May 2014

Sun. D., L. Sun, P. Ravoola, and S. Zhao, A Microscopic Simulation-Based Decision Support System to Develop Changeable Message Sign Alternatives, the Proceedings of 12th International IEEE Conference on Intelligent Transportation Systems, St. Louis, MO, 2009

2 Published Book Liu Jingbo, Zhao Shuai, CHEM 1111: General Inorganic Chemistry 1, Kendall Hunt Publishing; 1 edition, November 10, 2009

Liu Jingbo, Zhao Shuai, CHEM 1112: General Inorganic Chemistry 2, Kendall Hunt Publishing; 1 edition, November 10, 2009