

# Alemnew Sheferaw Asrese

*Last updated: May 3, 2019*

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<b>RESEARCH INTERESTS</b>	Internet Measurement, Quality of Experience (QoE), QoE Modeling, Web Performance, Networked and Systems and Applications, Web based Real-Time Communication, Machine Learning for Networking.	
<b>EDUCATION</b>	<b>Aalto University, Finland</b> Doctoral candidate in Networking Technologies Dissertation topic: Quality of Experience (QoE) Inference for Web Applications based upon Active Network Measurement. Advisers: Prof. Dr.-Ing. Jörg Ott and Dr. Pasi Sarolahti	<i>Sep 2014 - present</i>
	<b>University of Trento, Italy</b> Master of Science in Computer Science (Distinction) Specialization in Internet Technologies Thesis: Design and Development of Dynamic Fleet Management System Prototype. Adviser: Prof. Alberto Montresor	<i>Sep 2011 - Mar 2014</i>
	<b>Adama Science and Technology University, Ethiopia</b> Bachelor of Science in Information Science (with Very Great Distinction) Thesis: Online Voting System for National Electoral Board of Ethiopia. Adviser: Belayneh Mengistu	<i>Nov 2007 - Jul 2010</i>
<b>EXPERIENCE</b>	<b>Aalto University, ComNet Department, Finland</b> Doctoral Candidate and Researcher. Advisers : Prof. Dr.-Ing. Jörg Ott and Dr. Pasi Sarolahti <ul style="list-style-type: none"><li>– Working on research topic related with Web Performance &amp; QoE.</li><li>– Developed web performance measurement tools.</li></ul>	<i>Jun 2014 - present</i>
	<b>NEC Labs Europe, Heidelberg, Germany</b> Internship student. Mentors: Dr. Nitin Maslekar and Maria Goleva <ul style="list-style-type: none"><li>– Designed and implemented a dynamic fleet management system prototype by using the Vehicle Routing Problem algorithms.</li><li>– Designed and implemented a communication platform for electric vehicles by extending the C2X-sdk functionality for car to car and car to infrastructure communication.</li></ul>	<i>Feb 2013 - Jan 2014</i>
	<b>GreenPrefab Italia s.r.l, Rovereto, Italy</b> Web Developer and Programmer. <ul style="list-style-type: none"><li>– Designed and implemented a web portal for civil engineers and architects to do a simulation and rendering on a cloud.</li><li>– Designed and implemented a cloud solution for green building and energy efficiency simulation.</li></ul>	<i>Mar 2012 - Jul 2012</i>

**Adama Science & Technology University, Ethiopia**

Graduate Assistant.

*Sep 2010 - Aug 2011*

- Taught theoretical and laboratories courses for bachelor students.
- Designed and implemented a bilingual Malaria Expert System.

Laboratory Technician, Librarian, Intern student.

*Dec 2008 - Jun 2010*

- Troubleshooting & installing personal computers.
- Member of Library automation team.
- Configured the KOHA library integrated management system.
- Managing the library users and resources.
- Converted 500K+ e-books to PDF from different formats.

**RESEARCH  
VISITS**

**TU Munich, Chair of Connected Mobility, Germany**

*Jun - Aug 2018*

Visiting PhD Researcher.

*Jul - Aug 2017*

Mentor: Dr. Vaibhav Bajpai

- Measuring Web Latency and Rendering Performance

**INRIA – Paris, MUSE Research Group, France**

*Mar 2017 - May 2017*

Visiting PhD Researcher.

Mentors: Dr. Vassilis Christofidis and Dr. Renata Cruz Teixeira

- Analysis of Quality of Service (QoS) metrics for Web QoE modeling.

**Simula Research Laboratory, Oslo, Norway**

*March 2016 - July 2016*

Visiting PhD Student.

Mentor: Dr. Özgü Alay

- Measuring and modelling Web performance and QoE on mobile broadband network under different mobility scenario using MONROE platform.

**TEACHING  
EXPERIENCE**

**Aalto University**

*2014 - present*

Teaching Assistance:

- Instructed and graded the software project for the course Network Programming (2015).
- Instructed and graded the laboratories exercises for the course Communication Networks (2014).

**Adama Science & Technology University**

*Sep 2010 - Aug 2011*

Lectur:

- Introduction to Information Technology

Laboratories lessons:

- Programming with C++
- Object Oriented Programming with Java
- Web programming with HTML, CSS, JavaScript and PHP

**TECHNICAL  
SKILLS**

**Programming languages:** Java, Python, Android, C, C++, PHP, JavaScript, Shell

**Data analysis & visualization tools:** Python, R

**Database:** MySQL, SQL

**Networking tools:** Mininet, Wireshark

**Operating systems:** OS X, Linux, Windows

**Utilities:** vim, git,  $\text{\LaTeX}$

## PUBLICATIONS

1. A. S. Asrese, S. J. Eravuchira, V. Bajpai, P. Sarolahti, J. Ott. Measuring Web Latency and Beyond: Methods, Tools & Longitudinal Dataset. *IEEE Transactions on Network and Service Management (TNSM)*, XXX 2019 [ISI Impact: 3.28] <https://doi.org/10.1109/TNSM.2019.2896710>
2. A.S. Asrese, E. Walelgne, V. Bajpai, A. Lutu, O. Alay, J. Ott. Measuring Web Quality of Experience in Cellular Networks. in *Proc. of the 2019 Passive Active Measurement Conference*. March 2019. Puerto Varas, Chile. [26.6%, 20/75] [https://doi.org/10.1007/978-3-030-15986-3\\_2](https://doi.org/10.1007/978-3-030-15986-3_2)
3. D. N. da Hora, A. S. Asrese, et. al. Narrowing the gap between QoE and QoS metrics for Web applications. in *Proc. of the 2018 Passive Active Measurement Conference*. March 2018. Berlin, Germany. [40%, 20/50] **Best Dataset Award**. [https://doi.org/10.1007/978-3-319-76481-8\\_3](https://doi.org/10.1007/978-3-319-76481-8_3)
4. A. S. Asrese, P. Sarolahti, M. Boye, J. Ott. WePR: A Tool for Automated Web Performance Measurement. *Fifth IEEE International Workshop on Quality of Experience for Multimedia Communications – IEEE GLOBECOM 2016*. December 2016. Washington DC, USA. <https://doi.org/10.1109/GLOCOMW.2016.7849082>
5. P. Reichl, S. Egger, S. Möller, K. Kilki, M. Fiedler, T. Hossfeld, C. Tsirias and A. S. Asrese. Towards a comprehensive framework for QoE and user behavior modeling. *7th International Workshop on Quality of Multimedia Experience*. May 2015. Costa Navarino, Messina, Greece. <https://doi.org/10.1109/QoMEX.2015.7148138>

## THESES

1. Master thesis: Design and Development of Dynamic Fleet Management Prototype. *University of Trento, Italy*. March 2014.
2. Bachelor thesis: Online Voting System for National Electoral Board of Ethiopia. *Adama Science and Technology University, Ethiopia*. July 2010.

## POSTERS

1. A.S. Asrese, E. Walelgne, A. Lutu, O. Alay, J. Ott. Measuring Web Latency in Cellular Networks. *37<sup>th</sup> IEEE International Conference on Computer Communications*. April 2018. Honolulu, HI, USA. <https://doi.org/10.1109/INFCOMW.2018.8406855>
2. E. Walelgne, A.S. Asrese, V. Bajpai, J. Ott, J. Manner. Using Crowdsourcing Data for Adaptive Video Streaming in Cellular Network. *ACM MobiSys Conference*. June 2018. Munich, Germany. <https://doi.org/10.1145/3210240.3210804>
3. A. S. Asrese, P. Sarolahti, J. Ott. Web QoE inference from large scale measurement. *5<sup>th</sup> International PhD school in Traffic Monitoring and Analysis*. April 2015. Barcelona, Spain.

## TALKS

1. Measuring Web QoE in Cellular Networks. *Doctoral Seminar of Connected Mobility Chair at Technical University of Munich*. April 2019. Salzburg, Austria.
2. Web QoE and Performance in Mobile Broadband Networks. *Doctoral Seminar of Connected Mobility Chair at Technical University of Munich*. October 2016. Burghausen, Germany.
3. Netradar- Measuring mobile networks. *ACM SIGCOMM Internet Measurement Conference 2014*. November 2014. Vancouver, Canada.

## NON-REFERENCED ARTICLES

1. G. Biyane, A.S. Asrese. The Impact of Social Media on the Spiritual Life of Orthodox Christians – a survey. *Mahibere Kidusan Europe Center 16th General Assembly*. July 2016. Stockholm, Sweden. *[in Amharic Language]*

## PROJECTS

1. **METRICS:** Measurement for Europe: Training and Research for Internet Communications Science. FP7-PEOPLE – Contract no. 607728. *2014 - 2017*  
– Worked on WP 1 and contributed for deliverable 1.1, 1.2, 1.3.
2. **LEONE:** From global measurements to local management. EU FP7 ICT-2011.1.1 – contract no. 317647. *2012 - 2015*  
– Contributed for deliverable 4.3.
3. **VENUS-C:** Virtual multidisciplinary environments using cloud computing. EU FP7 Research Infrastructure – contract no. 261565. *2010 - 2012*  
– Designed and developed a cloud solution for architects and civil engineers that enables them to design and render different architectural and energy efficiency simulations.
4. **Malaria Expert System.** Grant from Ethiopian Ministry of ICT. *2010 - 2011*  
– Designed and developed a multilingual web based expert system which takes symptoms of malaria as an input and gives information about the situation of the patient.

## PROFESSIONAL SERVICES

### Technical Program Committee:

- AFRICOMM Workshop on Internet measurements research in Africa *2018*

### Shadow Technical Program Committee:

- Internet Measurement Conference *2017, 2018*
- Traffic Measurement and Analysis Conference *2018*

### External Reviewer:

- IEEE Transactions on Network & Service Management (TNSM) *2019*
- IEEE/IFIP Symposium on Integrated Network Management *2019*
- IFIP Networking Conference *2018*

## AWARDS AND GRANTS

- ACM student travel grant to SIGCOMM conference, Florianopolis, Brazil. *2016*
- ACM student travel grant for CoNEXT conference, Heidelberg, Germany. *2015*
- ACM travel grant for Internet Measurement Conference, Tokyo, Japan. *2015*
- Award of Excellence for the year 2014 from University of Trento, Italy. *2015*
- Marie-Curie Initial Training Network grant for three years of PhD study. *2014*
- Opera Universitaria Scholarship for two years of Master study. *2011*

## EXTRA CURRICULAR & VOLUNTEER WORK

### Mahibre Kidusan

1. Member of the Executive Committee and Head of Technology, Research & Training Department at Mahibere Kidusan Europa a.V, Germany. *2014 - 2017*
2. Member *Since 2007*

## REFERENCES

**Jörg Ott**

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**Vaibhav Bajpai**

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