Ermias Andargie Walelgne

Contact Department of Communications and Networking (Comnet) Information http://ermiaswalelgne.github.io Aalto University Maarintie 8, 02150 ermias.walelgne@aalto.fi Espoo, Finland **№**+358 451959032 Internet measurements, mobile data analysis, wireless network performance, user experience Research Interests and QoE modeling in mobile systems, machine learning. **EDUCATION** Aalto University, Espoo, Finland Since: June 2015 Doctoral Candidate in Networking Technologies School of Electrical Engineering - Thesis Topic: Mobile Network Characteristics and Performance Prediction from the Edge. Advisors: Prof. Jukka Manner and Prof. Dr.-Ing. Jörg Ott. University of Trento, Trento, Italy Sep 2011 - Mar 2014 Masters of Science in Computer Science - Topic: Time Series Similarity Query Answering Using iSAX on MapReduce. - Adviser: Prof. Themis Palpanas Hawassa University, Hawassa, Ethiopia Oct 2005 - July 2008 Bachelor of Science Degree in Computer Science (with Great Distinction) - Topic: Residents' Information Management System. Jun 2014 - present Aalto University, Comnet, Finland Research EXPERIENCE Doctoral Candidate and Researcher. - Working on the PhD project #2 of METRICS-ITN project. - Advisers: Prof. Jukka Manner and Prof. Dr.-Ing. Jörg Ott University of Illinois Research Center, Singapore Jul - Dec 2012 Junior Researcher - Topic: Attacks on GWAS privacy: A Data Mining Approach. Mentor: Zhenjie Zhang and Yin (David) Yang Research Visit TU München, Germany - Visiting PhD Researcher. Mentor: Dr. Vaibhav Bajpair Topics: Data Usage Pattern and User Behavior in Cellular Networks. Apr 1 - 13, 2019 - Using Crowdsourcing Data for Adaptive Video Streaming in Cellular Network. May

- Performance and Stability Analysis in Cellular Network. Sep - Nov 2017

- Measuring Factors Affecting Latency in Cellular Networks. Mar - May 2017

Teaching Aalto University, Comnet, Finland Jun 2014 - present EXPERIENCE

Teaching Assistance:

- Internet Traffic Measurements and Analysis 2015/16 2015 - Protocol Design

Bahir Dar University, Ethiopia Sep 2010 - Aug 2011

Assistant Lecturer

- Taught bachelor level courses: (Data Communication and Computer Networking; Fundamentals of Programming with C++; Fundamentals of Database System with

University of Gondar, Ethiopia

Sep 2008 - Sep 2010

Graduate Assistant then promoted to Assistant Lecturer

- Taught bachelor level courses: (Data Structure and Algorithm; Fundamentals of programming with C++: Software Engineering: Object Oriented programming with Java)
- Committee services
 - * Research and Publication committee member
 - * Department Assembly Member
 - * Graduate Students Project Coordinator

Industry EXPERIENCE

Elisa Oyj, Helsinki, Finland

Oct 2016 - Feb 2017

PhD Research Intern.

- Topic: Performance of Web Flows in Cellular Networks. Mentor: Setälä Kim

Ethio Telecom, Ethiopia

Jul 2007 - Sep 2008

Junior Programmer

- Developed an Online Domain Name Registration System to Ethio-Telecom. Worked with team of 5 members.

- TECHNICAL SKILLS Programming languages & Scripts: Java, Python, C++, PHP, JavaScript, Shell.
 - Data Analysis & Visualization: Pandas, Numpy, R, Matplotlib, Seaborn.
 - Machine Learning & Big Data Frameworks: Scikit-learn, Spark, Tensorflow, Apache Hadoop, MapReduce.
 - Database: MySQL, SQL, MongoDB, PostgreSQL.
 - **Networking Tools:** Mininet, Wireshark.
 - Operating Systems: OS X, Linux, Windows.
 - **Utilities:** vim, git, LaTeX

Conference Publication

- 1. Stefan Neumeier, Ermias Walelgne, Vaibhav Bajpai, Jrg Ott, Christian Facchi: "Measuring the Feasibility of Teleoperated Driving in Mobile Networks." Traffic Measurement and Analysis (TMA) conference, 2019 [32.3%, 21/65]
- 2. Alemnew Asrese, Ermias Walelgne, Vaibhav Bajpai, Andra Lutu, Özgü Alay, Jörg Ott: "Measuring Web Quality of Experience in Cellular Networks.", Passive Active Measurement Conference, 2019 [26.6%, 20/75]
- 3. Kasper Apajalahti, Ermias Walelgne, J Manner, E Hyvönen: "Correlation-Based Feature Mapping of Crowdsourced LTE Data", IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, 2018 [45.2%, 349/772]
- 4. Ermias Walelgne, Kim Setälä, Vaibhav Bajpai, Stefan Neumeier, Jukka Manner and Jörg Ott: "Factors Affecting Performance of Web Flows in Cellular Networks." *IFIP Networking conference*, 2018 [24.4%, 55/225]
- 5. Ermias Walelgne, Jukka Manner, Vaibhav Bajpai and Jörg Ott: "Analyzing Throughput and Stability in Cellular Networks." IEEE/IFIP Network Operations and Management Symposium, 2018 [32.2%, 56/174]
- Jörg Ott, Ljubica Karkkainen, Ermias Walelgne, Ari Keränen, Esa Hyytiä, Jussi Kangasharju: "On the sensitivity of geo-based content sharing to location errors." IEEE/IFIP Wireless On-demand Network Systems and Services Conference, 2017 [44.9%, 22/49]

POSTERS (PEER-REVIEW) PUBLICATION

- 1. Ermias Walelgne, Alemnew Asrese, Vaibhav Bajpai, Jörg Ott, Jukka Manner: "Using Crowdsourcing Data for Adaptive Video Streaming in Cellular Network", MobiSys, 2018.
- 2. Alemnew Asrese, Ermias Walelgne, Andra Lutu, Ozgu Alay, Jörg Ott: "Measuring Web Latency in Cellular Networks." *INFOCOM*, 2018.

Thesis

- 1. Master thesis: "Time Series Similarity Query Answering Using iSAX on MapReduces". University of Trento, Italy, Mar 2014.
- 2. Bachelor Thesis: "City Resident´s Information Management System", Hawassa University, Ethiopia, Jul 2008.

Posters

- Ermias Walelgne, Vaibhav Bajpai, Jörg Ott: "Using Crowdsourcing Data for Adaptive Video Streaming in Cellular Network." Munich Internet Research Retreat, MIR3, Raitenhaslach, Germany, Nov 2017.
- 2. Ermias Walelgne, Jukka Manner, Vaibhav Bajpai, Jörg Ott: "Analyzing the Performance and Stability of Cellular Networks." ACM Internet Measurement Conference (IMC), London, UK, Nov 2017.
- 3. Stefan Neumeier, Ermias Walelgne, Vaibhav Bajpai Jörg Ott, Christian Facchi: "Ping on the Move." ACM Internet Measurement Conference (IMC), London, UK, Nov 2017.
- 4. Ermias Walelgne, Vaibhav Bajpai, Jörg Ott: "Measuring and Predicting The Performance of Cellular Links From Mobile Users Device." Munich Internet Research Retreat, MIR3, Raitenhaslach, Germany, May 2017.
- 5. <u>Ermias Walelgne</u>: "Understanding the Characteristics of Cellular Network and Its <u>Performance</u>." METRICS Industrial Workshop at Ericsson, Espoo, Finland, Mar 2016.
- Ermias Walelgne, Jukka Manner, Jörg Ott: "Understanding Link Stability and Performance in Mobile Network." 5th International PhD school in Traffic Monitoring and Analysis, Barcelona, Spain Apr 2015.

Talks and Presentation

- 1. "Factors Affecting Performance of Web Flows in Cellular Networks"- RIPE 77, Amsterdam, Netherlands, Oct 2018.
- 2. "Factors Affecting Performance of Web Flows in Cellular Networks." RIPE NCC Regional Meeting, Almaty, Kazakhstan, Sep 2018.
- 3. "Why Browsing the Internet from Mobile Phone is so Slow?" At Elisa Research Team, Helsinki, Finland, Jun 2017.
- "On Characterising and Prediction of Cellular Network Performance." Chair of Connected Mobility Doctoral Seminar, Frauenchiemsee, Germany, Oct 2017.
- 5. "Factors Affecting DNS and TCP Latency in Cellular Networks." Chair of Connected Mobility Doctoral Seminar, Munich, Germany, Apr 2017.
- 6. "Characteristics and Performance of Cellular Network." Chair of Connected Mobility Doctoral Seminar, Innsbruck, Austria, Oct 2015.

Projects	 METRICS: Measurement for Europe: Training and Research for Internet Communications Science. FP7-PEOPLE Contract no. 607728. Worked on WP 1 and contributed for deliverable 1.1, 1.2, 1.3. 		
Training and Certificates	Neural Networks and Deep Learning, Coursera 4G Network Essentials, edX Strategic Management Seminar, IE Business schoolIE University, Spain ITC0002, Cyber Security, Tallinn University of Technology, Estonia CISCO Certified Network Association (CCNA) Exploration		Sep 2018 May 2018 Jun 2016 Jun 2015 Jul 2009
Professional Services	Technical Program Committee: - AFRICOMM - Workshop on Internet measurements research in Africa 2018, 2019 External Reviewer:		
		 IEEE Wireless Communications and Networking Conference (WCNC) 	
	 ACM SIGCOMM Computer Communication Review (CCR) Artefacts Review Shadow PC: 		2017
	- ACM IMC - Internet Measurement Conference, Amsterdam, Netherlands		2019
	- ACM IMC - Internet Measurement Conference, Boston, USA		2018
	 TMA - Network Traffic Measurement and Analysis Conference, Vienna, Aust 		2018
	- ACM IMC - Internet Measurement Conference, London, UK		2017
Grants and Awards	 RIPE77 Academic Cooperation Initiative Recipient - Amsterdam, Netherlands 2018 FIP/IEEE NOMS 2018 Student Travel Grant for Authors, Taipei, Taiwan 2018 ACM student travel grant for IMC conference, London, UK. 2017 ACM student travel grant for CoNEXT conference, Heidelberg, Germany. 2015 Merit Prize - for achieved remarkable results, University of Trento, Italy. 2015 Marie-Curie Initial Training Network grant for three years of PhD study. 2014 Opera Universitaria Scholarship for Masters in Computer Science, University of Trento, Italy 2011 Academic Award for Top Performing students in Natural Science faculty, Hawassa University 2007 Graduated with Great Distinction, faculty 2nd top scorer, Hawassa University 2010 		ran 2018 2017 ny. 2015 y. 2015 y. 2014 niversity of 2011 y, Hawassa 2007
Languages	 English fluent Amharic native Italy basic Finnish basic 		native basic
References	Prof. Jukka Manner Aalto University, Finland jukka.manner@aalto.fi	Prof. Jörg Ott Technische Universität Münche ott@in.tum.de	en,Germany
	Dr. Vaibhav Bajpai Technische Universität München, Germany		

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