

Tewodros Deneke

Curriculum vitae

WORK EXPERIENCE

MAY 2012 – PRESENT

PHD student at ÅBO AKADEMI UNIVERSITY, Finland
Research and Education

Title: *PROACTIVE MANAGEMENT OF DISTRIBUTED MULTIMEDIA STREAM PROCESSING SERVICES*

Modern computational resources are distributed and heterogeneous in their nature. At the same time multimedia stream processing services such as video transcoder require a large amount of computation power along with low latency. In addition, incoming data rates, processing requirements, and underlying hardware resources fluctuate continuously. This, along with other similar factors make efficient distributed stream processing a very difficult and interesting research problem. To address the problem of distributed multimedia processing in a heterogeneous and elastic environment, we need to understand different concurrent processing abstractions such as event-driven processing and develop algorithms for estimating the available underlying resources together with the resource requirements of the task at hand. These prediction are then used to properly schedule the tasks based on a preferred optimization constraint. In addition, whenever the system shall predict a possible shortage in some system resources, the need for dynamic resource scaling need to be addressed. Besides the resource management issues there is also a need for defining some sort of a quality of service along with admission control mechanism.

NOVEMBER 2012 – APRIL 2012

Research assistant at ÅBO AKADEMI UNIVERSITY, Finland

Research and Education

Worked on scalable video transcoding application for Multi cores, cloud platforms and UPNP AV transcoding device Development.

MAY 2011 – OCTOBER 2012

Masters Thesis at ÅBO AKADEMI UNIVERSITY, Finland

Research and Education

Title: *Scalable Distributed Video Transcoding Architecture*

SEPTEMBER 2007 – SEPTEMBER 2008

Ethiopian Electric Power Cooperation., Ethiopia

Renewable Energy Industry

Electric Power Distribution Automation/Demand Side Management (DA/DSM) system installation

and maintenance. The DA/DSM is a SCADA system that is used to balance electric power load among a set of power substations.

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EDUCATION

- 2012 – 2016 **Computer Engineering**
PHD
ÅBO AKADEMI UNIVERSITY, Finland
- 2010 – 2012 **Embedded Computing**
MASTER OF SCIENCE
ÅBO AKADEMI UNIVERSITY, Finland
- 2009 – 2010 **Mobile Programming**
SPECIALIZATION
Metropolia University of Applied Science, Finland
- 2003 – 2007 **Electrical Engineering**
BACHELOR OF SCIENCE
Bahir Dar University, Ethiopia

PUBLICATIONS

Tewodros Deneke, Habtegebrel Haile, Sebastien Lafond, Johan Lilius. *Video Transcoding Time Prediction for Proactive Load Balancing*, ICME 2014

Ashraf, Adnan and Jokhio, Fareed and Deneke, Tewodros and Lafond, Sebastien and Porres, Ivan and Lilius, Johan. *Stream-Based Admission Control and Scheduling for Video Transcoding in Cloud Computing*, CCGRID 2013

Jokhio F, Deneke T, Lafond Sbastien and Lilius Johan. *Bit Rate Reduction Video Transcoding with Distributed Computing*, PDP 2012.

SKILLS

- GOOD LEVEL C, C++, Java, Matlab, Linux, Windows, Latex
- INTERMEDIATE Python, VHDL, OpenOffice, Ms Office,