

CURRICULUM VITAE

Personal Information:

Surname **Githiari**
Given Name: **Lawrence Muchemi**
Address: P.O. BOX 1017 - 00621
Village Market,
Nairobi - Kenya
Tel. No. + 254 722 234738
E-mail: lmuchemi@uonbi.ac.ke
Date of Birth: June, 05, 1970
Place of Birth: Nyeri, Central Kenya
Nationality: Kenyan
Present Resident in Kenya
Marital Status: Married with Three children (1996, 2000(Twins))



Objective and Research Interests:

- Become a respected researcher and scholar in computing within Africa, specializing in natural language processing and more so information access.

Research Experience

A. PhD Research Work

I am currently working towards a PHD degree in Computer Science in Natural Language Query processing for Swahili Language.

Brief Synopsis:

- **Title of proposed thesis:** *Natural Language Parsing for Relational Database Access: Case Study of Swahili, University of Nairobi*
- **Duration:** 2007 to 2010/1
- **Methodology:** *Use of appropriately labeled phrase chunks from either a rule based or machine learning-based phrase-chunker and appropriate mapping algorithms. If experiments based on this method succeed, then one can develop efficient tools for enhancing database access using most Bantu languages spoken widely in sub-saharan Africa. Access of Government databases using NL would be a major boost to e-government efforts.*
- **Mile-stones:** *Worked on literature review conducted field work on nature of inputs and published some key findings. Polished on methodology and also published the model.*
- **Yet to be Achieved:** *Develop prototype for evaluating the model.*

B. MPhil Research

Master of Philosophy (Mphil) Degree (Engineering) specializing in Artificial Intelligence Systems

- Research Area: Artificial Intelligence Systems for computer Aided Manufacturing.

- Thesis title: *Computer Aided Information system for Generating Optimized Machining Data. An expert system Approach.* This work is found in :

Muchemi, L. (1999). *Computer aided Information System for Generating Optimized Machining Data.* Unpublished M.Phil thesis, Moi University, Kenya.

C. My Research Activities at the School of Computing & Informatics SCI, (University of Nairobi)

- Play a major coordinating role between SCI's research activities and the industry. Current collaborations include Google, Nokia and a few local companies.
- Founder member and current chair of the SCI's industry collaboration unit, CoRE(Computing Research and Engineering) Centre at SCI
- Supervising one MSc (CS) student's and four Msc(IS) students in their dissertation projects.

Education Background

January 2007 to Date
Under a Ph.D. Computer Science Program
University of Nairobi
Area of research: NLP.

Sept. 1996 to Dec. 1999
M.Phil. Engineering- AI systems
Moi University

Sept. 1990 to Dec 1994
B.Tech.(Honors) Engineering
Moi University

Jan 1988 to Dec 1989
Kenya Advance Certificate of Education ("A Level")
Maths, Physics, Chemistry- All Distinctions.
Kagumo High School

Jan 1984 to Dec 1987
Kenya Certificate of Education ("O Level")
Maths, Physics, Chemistry, Biology, English, Swahili, Commerce. Five Distinctions -
Nyeri High School

Other Professional Training

Trained Microsoft Certified Systems Engineer (MCSE)

Association Memberships

- Member of the Institute of Engineers of Kenya
- Registered Engineer (ERB) under Cap 503 of laws of Kenya

Teaching And Professional Experience

Period : 2004-Date> Lecturer

- Institution : University of Nairobi, Kenya.
- Position : Lecturer Master of Science (Information Syst.), MSc(Computer Sc.), BSc(Computer Sc.)
- Department : School of computing and Informatics

Period : June 2000 to 2006

- Institution : -African Nazarene University, Ongata Rongai, Kenya.
- Position : -Lecturer (2000 – 2006)
- Head of Computer Science Department (2001 to 2004).

DUTIES AND RESPONSIBILITIES

As lecturer: Teaching and examining undergraduate students: AI, DBMS, IS:-

As Head of Department

- Administration and planning of courses in the department
- Sourcing, interviewing and recommending all academic teaching staff and supportive staff at the departments.
Categories include: computer scientists, mathematicians and Physics/Electronics.
- Sourcing, reviewing and recommending external examiners for all departmental needs.
- Expansion and advancement of department through establishment of new courses.
- Day-to-day operations: timetables, internships, examinations, laboratories etc.
- Interviewing prospective students.

Membership of Committees at Africa Nazarene University

- The university senate.
- Board of undergraduate studies.
- Information Communication Technology (ICT) committee of the University.
- AIDS committee.
- University Library Committee.
- Terms of service and Remuneration Committee for teaching Staff.

Membership of Professional Initiatives

- Curriculum Co-Development (CCD) Initiative.
- Representative at KENET.
- Patron of Association of IT students Association.

Period : 1999 to 2005 (PART TIME).

- Institution: Jomo Kenyatta University of Agriculture and Technology (JKUAT), Juja, Kenya.
- Position : Lecturer, at the

- Department of Mechanical Engineering,
- Institute of Computer Science,
- Nairobi Centre.(BIT Program),
- Mechatronics Engineering Program.

★ Period: Before 1999

- Worked in various public and private institutions as an Engineer.

Publications

1. Muchemi L.G., *Towards Full Comprehension of Swahili Natural Language Statements for Database Querying*. Strengthening the Role of ICT in Development, Fountain Publishers, Kampala, Uganda, p.50-58 (2008)
2. Muchemi, Narin'yani, *Semantic Based NL Front-End For Db Access: Framework For Swahili Language*, 1st International Conference in Computer Science and Informatics (COSCI 2007) UoN-ISBN 9966-7284-0-6, Nairobi, Kenya 161-167.
3. Muchemi, Getao, *Enhancing Citizen-Government Communication Through Natural Language Querying*, 1st International Conference in Computer Science and Informatics (COSCI 2007, UoN-ISBN 9966-7284-0-6, Nairobi, Kenya 150-154.
4. Muchemi L.G, *Expert System in Metal Cutting*, Published by SOULE SOUTHWEST, U.K. Edited/ refereed., Knezeric,J. ,Kumar, D., Nicholas, c., International Society of Logistic Journal, 1998, Page 289 – 302.

Recent Conference Presentations

1. Muchemi, L., Lwande, O. (2008). *Agro-Meteorological KMS for SS Farmers*. 3rd International conference on Broadband communications (BroadCom2008) CSIR International Convention Centre, Pretoria, South Africa. Nov 2008
2. Muchemi, L., Lwande, O. (2008). *Integrating Knowledge management and mobile phone technology to disseminate Agro-Met information to Rural based small scale farmers*. 9th ICT Conference on ICT's Role: Towards a Knowledge Economy. Strathmore University. Nairobi, Kenya. Sept 2008.
3. Muchemi L, Ojenge W. (2008). *Career Guidance Assistant – A Model That Employs Knowledge Based Systems To Provide Career Guidance*. Strengthening the Role of ICT in Development, Fountain Publishers, Makerere University, Kampala, Uganda.

Authorship Of University Curriculums

- 1 *Africa Nazarene University – BSc. (Computer Science), Approved 2002 by Kenya's Commission for Higher Education*
Co-authored with:-

- ★ Prof. Larry Veil – Northwest Nazarene University, USA.
 - ★ Dr. Katherine Getao – Director, school of computing and informatics, University of Nairobi.
 - ★ Dr. Donald Biggar – Oxnard University, USA and visiting lecturer at ANU.
 - ★ Myron Murray – Computer Science Professional, NIVS, USA.
2. *Bachelor of Business and Information Technology Curriculum Document (2002 – 2004). Approved 2006 by Kenya’s Commission for Higher Education*
Co-authored with:-
- ★ Prof. Mary Jones – DVC (Academics), Africa Nazarene University
 - ★ Dr. Donald Biggar – Oxnard University, USA and visiting lecturer at ANU.
 - ★ Mr Getao Mbugua – Chairman Department of Business Administration, Africa Nazarene University.
3. *Bachelor of Education (Information technology – option) curriculum document 2003 -2004.Approved 2006*
Co-authored with:-
- 2 Prof. Mary Jones –DVC (Academics, ANU
 - 3 Dr. Stanton – Chairman Department of theology, ANU.
 - 4 Agnes Kariungi – University Common Course co-ordinator, ANU.
4. Africa Nazarene University, Institute of Professional Studies, *short courses program in computer science, approved 2004.*
Co-authored with:-
David Sikolia – lecturer, Africa Nazarene University.
5. *Short courses syllabus for CAD/CAM program for Jomo Kenyatta University of Agriculture and Technology(JKUAT) 2002*
Co-authored with:-
- Prof. Maranga – Professor of Engineering, JKUAT

Talks at International Academic Forums

1. Muchemi et al. (2009). *Role of University Research in Spurring Information Access for Developing Countries(Focus on Sub-saharan Africa)*. Talk at the EMEA conference Feb 2009. Organized by Google-Europe at the Google Headquarters, Zurich, Switzerland.

References

May be provided on Request