

## HAMMAN W. SAMUEL

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### EDUCATION

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#### Ph. D. Computing Science

University of Alberta, Edmonton, Alberta, Canada, Sept. 2011 – Present  
Research on computational models for trust, privacy, and findability in online health information.  
Research supervisor: Dr. Osmar R. Zaiane

#### M. Sc. Computing Science

University of Alberta, Edmonton, Alberta, Canada, Aug. 2009 – Sept. 2011  
*Content Management for Online Health Advice Sharing*. M.Sc. Thesis  
Supervisor: Dr. Osmar R. Zaiane

#### B.Sc. (Magna Cum Laude) Computer Science

American University of Nigeria, Yola, Adamawa, Nigeria, Sept. 2005 – May 2009  
*Pathway: Computer-Based Adaptive Student Evaluation*. Senior Design Project  
Supervisor: Dr. Nwojo Agwu

#### National Diploma (Distinction) Computer Science

Adamawa State Polytechnic, Yola, Adamawa, Nigeria, Sept. 2001 – Sept. 2003  
*A Report on Projector-Aided Computerized Teaching for Primary Schools*. Project Report  
Supervisor: James H. Bulama

### PROFESSIONAL EXPERIENCE

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#### Research Assistant

University of Alberta, Edmonton, Alberta, Canada, May 2010 – Present  
Working with Dr. Osmar R. Zaiane on various research topics related to ethics, health informatics, social media, databases, natural language processing, machine learning, and data mining.

#### Teaching Assistant

Dept. of Computing Science, University of Alberta, Edmonton, Alberta, Canada, Sept. 2009 – Apr. 2015  
Taught various courses to undergraduate students, including Introduction to Computing, Python, Data Structures, Non-Procedural Programming Languages, and Security.

#### Intern at PPM 2000 Canada

PPM 2000, Edmonton, Alberta, Canada, Aug. 2013 – May 2014  
Developer for business intelligence applications for the PPM 2000 incident management software system using machine learning, and including specifications for User Interface (UI) design.

#### Team Lead for University Database System

American University of Nigeria, Sept. 2005 – May 2009  
Led team of four and developed enterprise-wide system for student records management, including academic records, grades, course advising, transcript generation, financials, bookstore inventory, classroom and faculty scheduling, and decision support sub-systems for reporting and analytics.

### AWARDS AND HONORS

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- Professional Development Award, University of Alberta, Canada (2011, 2013, 2015)
- Doctoral Scholarship, University of Alberta, Canada (Sept. 2011 – Apr. 2012)
- Mary Louise Imrie Graduate Student Award, University of Alberta, Canada (Oct. 2010)
- Full Scholarship, American University, USA. (Jan. 2008 – May 2008)
- Tuition Scholarship, American University of Nigeria (Sept. 2005 – May 2009)
- President's and Dean's Honors List, American University of Nigeria (2005 – 2009)

## PUBLICATIONS

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- Hamman Samuel, Osmar Zaiane. "PubMedReco: A PubMed Citations Recommender System for Real-Time Chat". In *Proceedings of the World Congress on Medical and Health Informatics (MedInfo)*. Hangzhou, China, Aug. 2017.
- Hamman Samuel, Mi-Young Kim, Sankalp Prabhakar, Mohomed Shazan Mohomed Jabbar, Osmar Zaiane. "Community Question Retrieval in Health Forums". In *Proceedings of the IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*. Orlando, Florida, USA, Feb. 2017.
- Hamman Samuel, Osmar Zaïane, Patricia Martz. "Supporting Digital Epidemiology in Alberta via Twitter Tracking". Presented at the *IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*. Orlando, Florida, USA, Feb. 2017.
- Saeed Mohajeri, Hamman W. Samuel, Osmar R. Zaïane, Davood Rafiei. "BubbleNet: An Innovative Exploratory Search and Summarization Interface with Applicability in Health Social Media". Best Paper Award. In *Proceedings of the International Conference on Digital Economy (ICDEc)*. Carthage, Tunisia, Apr. 2016.
- Hamman W. Samuel, Mi-Young Kim, Sankalp Prabhakar, Mohomed Shazan Mohomed Jabbar. "Golden Retriever: Question Retrieval System". In *Proceedings of the IEEE International Conference on Healthcare Informatics (ICHI)*. Dallas, Texas, USA, Oct. 2015.
- Hamman W. Samuel, Osmar R. Zaïane. "A Repository of Codes of Ethics and Technical Standards in Health Informatics". *Online Journal of Public Health Informatics (OJPHI)*. Vol. 6, No. 2, 2014.
- Hamman W. Samuel, Osmar R. Zaïane. "On Management of the Health Content Lifecycle". *International Journal of Public Health Frontier (PHF)*. Vol. 2, No. 2, 2013.
- Hamman W. Samuel. "Evidence-Based Trust Metrics in Web Services". In *Proceedings of the International Conference on Computer Science and Software Engineering (CASCON)*. Markham, Ont., Canada, Nov. 2013.
- Hamman W. Samuel, Osmar R. Zaïane, Jane Robertson Zaïane. "Findability in Health Information Websites". In *Proceedings of the IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*. Hong Kong/Shenzhen, China, Jan. 2012.
- Hamman W. Samuel, Osmar R. Zaïane. "PSST... Privacy, Safety, Security, and Trust in Health Information Websites". In *Proceedings of the IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*. Hong Kong/Shenzhen, China, Jan. 2012.
- Hamman W. Samuel, Osmar R. Zaïane. "HCMS: Conceptual Description of a Health Content Management System". In *Proceeding of the International Conference on Software Engineering (ICSE)*. Honolulu, Hawaii, USA, May 2011.
- Metanat HooshSadat, Hamman W. Samuel, Sonal Patel, Osmar R. Zaïane. "Fastest Association Rule Mining Algorithm Predictor (FARM-AP)". In *Proceedings of the Canadian Conference on Computer Science and Software Engineering (C3S2E)*. Montreal, Canada, May 2011.
- Hamman W. Samuel, Osmar R. Zaïane, Dick Sobsey. "Towards a Definition of Health Informatics Ethics". In *Proceeding of the ACM International Health Informatics Symposium (IHI)*. Arlington, Virginia, USA, Nov. 2010.

## ACADEMIC COMMUNITY SERVICE

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### Invited Reviewer

- Journal of Medical Systems (2016)
- Computational Intelligence Journal (2016)
- Health Informatics Journal (2015)

### Technical Program Committee (TPC) Member

- International Workshop on Big Data Analytics for Smart and Connected Health (IEEE CHASE 2016)
- IEEE International Conference on Machine Learning and Applications (ICMLA 2015)
- IEEE Colloquium on Humanities, Science and Engineering Research (CHUSER 2014)
- International Conference on Advances in Computing, Communications and Informatics (ICACCI 2014)
- International Conference on Advances in Computing, Communications and Informatics (ICACCI 2013)
- IEEE Symposium on Business, Engineering and Industrial Applications (ISBEIA 2012)
- IEEE Colloquium on Humanities, Science and Engineering Research (CHUSER 2012)
- Pan-Alberta Computing Science Conference (PABCS 2012)

## LEADERSHIP

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### **Representative on Information Technology Advisory Committee (ITAC) (2013 – Present)**

Serving as a graduate student representative on the University of Alberta's Information Technology Advisory Committee (ITAC) for giving feedback on campus-wide IT systems.

### **Chief Returning Officer (CRO), Graduate Student Association (2014 – 2015)**

Elected as Chief Returning Officer for the Graduate Student Association (GSA), University of Alberta, and responsible for administering and supervising the GSA General Election 2015.

### **President, Computing Science Graduate Student Association (2014 – 2015)**

Elected as President for the Computing Science Graduate Student Association (CSGSA), University of Alberta, with diverse responsibilities ranging from leadership, team work, liaising with the department's graduate chair.

### **Councillor, Graduate Student Association (2011 – 2014)**

Elected as Councillor for Computing Science at the Graduate Student Association, University of Alberta, and also volunteered on various sub-committees: Student Affairs Advisory Committee, Elections and Referenda Committee, Judicial Committee.

### **Councillor, Faculty of Graduate Studies and Research (2012 – 2013)**

Served as a Councillor Alternate for Department of Computing Science at the Faculty of Graduate Studies and Research (FGSR), University of Alberta, by voting on issues concerning graduate students.

### **Vice President, American University of Nigeria Honors Society (2007 – 2009)**

Elected as inaugural vice president for the Honors society at American University of Nigeria, and subsequently served as actively participating member and leader of website committee.

### **Member, President's IT Work Group (2007)**

Represented student interests and participated in high-level discussions with the University President and other executives about IT policies at the American University of Nigeria.

### **Student Representative, University Senate (2006 – 2007)**

Presented and highlighted student undergraduate concerns related to academics for review by the University Senate at the American University of Nigeria.

## VOLUNTEERING

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### **Student Legal Services Edmonton (2010 – Present)**

Management of the website of Student Legal Services, Edmonton, Alberta, Canada, with responsibilities including timely updating of content, up-keep of the website, and technical consultancy.

### **ACM SIGWEB (2011 – Present)**

Responsible for maintenance the Association for Computing Machinery's SIGWEB group's website content and components as part of the website team.

### **Wanderer Magazine (2012 – 2015)**

Served under the role of Computer Programming Editor for technical support, web development, and consultation of The Wanderer online magazine based in Edmonton, Alberta, Canada.

### **Inter-Varsity Christian Fellowship, Canada (2010 – 2015)**

First vice president of IFG Edmonton student group, sponsored by Inter-Varsity, at University of Alberta, Edmonton, Alberta, Canada; later served as active member, web master, and publicity director.

### **University of Alberta International Student Services (2011)**

Facilitated English language learning as English conversation group facilitator for international students in the English conversation groups program at the University of Alberta International Student Services.

### **Chi Alpha Christian Fellowship, USA (2008)**

Designed and maintained website for the Chi Alpha Christian Fellowship, Potomac District, USA.

## **TECHNICAL SKILLS AND EXPERTISE**

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### **Web Technologies**

Extensive experience with web standards, design, and technologies such as HTML, XML, JavaScript, Ajax, CSS, semantic web, RSS/Atom, web services, and search engine optimization (SEO); highly knowledgeable in server-side scripting languages such as Python, PHP, JSP, ASP, and ASP.NET; very proficient in Wordpress and Joomla content management systems (CMS); broad familiarity with libraries and frameworks such as Smarty, jQuery, Code Igniter, Google Apps Scripting; experience developing Facebook and Twitter applications.

### **Database Technologies**

Wide-ranging relational database management experience with medium- and large-scale database systems using MySQL, Microsoft SQL Server, Microsoft Access, as well as non-relational varieties (NoSQL) such as MongoDB; knowledgeable in Object-Relational Modeling (ORM) and tools such as Hibernate and RedBeanPHP; experience with PHP Data Objects (PDO) and Active Record data design patterns.

### **Software Engineering**

Well-informed in pragmatic object-oriented development principles, UML, design patterns, Model View Controller (MVC) architecture, and software techniques such as eXtreme Programming (XP) and iterative development; familiarity and practical experience with Agile project management methodologies; diverse and extensive experience with programming languages such as Java, C, C++ C#, Python.

### **Machine Learning**

Conversant with machine learning techniques such as association rule mining, classification, clustering; knowledge of data mining knowledge discovery and Business Intelligence (BI); also experience with applications of Natural Language Processing (NLP) concepts; practical experience with tools/libraries such as SciKitLearn, NLTK, Weka, Apache OpenNLP.

### **Communication and Language**

Fluent in spoken and written English, fluent in spoken Urdu & Hindi, intermediate in spoken Punjabi, beginner in Chinese, French, and Hausa.