

HAMMAN W. SAMUEL

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PROFESSIONAL EXPERIENCE (Selected)

Research Assistant, *University of Alberta*, Edmonton, Canada, September 2010 – May 2018.

- Developed web-based application with PHP, SQL, JavaScript/AJAX, and Python for patients and medics to connect and interact with information and one another in a trust-centric and privacy-aware environment.
- Created geo-fenced social data aggregator for collection of large-scale Twitter datasets within Canada using Python hosted on a Linux cloud infrastructure, including experimentation with NoSQL MongoDB database.
- Designed real-time recommender system for medical chat rooms in PHP and JavaScript/AJAX with automated parsing of chat conversations via natural language processing and neural networks.

Machine Learning Consultant, *Stream Technologies Inc.*, Edmonton, Canada, January 2017 – December 2017.

- Provided technical consultation on predictive solutions using linear regression for large-scale datasets containing image meta data, and coded custom Python scripts for feature extraction, anomaly detection, and clustering.

Data Science Intern, *Resolver Inc.*, Edmonton, Canada, August 2013 – May 2014.

- Worked with large-scale datasets in Microsoft SQL Server to analyze and identify emerging patterns, and designed customized machine learning solutions for data warehouse analytics and prediction.

Software Contractor, *HQ Group Inc.*, Canada, October 2010 – November 2015.

- Programmed mobile and web-based applications for image processing and OCR with server-side programming in C# and ASP.NET and database development with Microsoft SQL Server.

Web Developer, *Canadian Writing Research Collaboratory*, Canada, January 2013 – March 2015.

- Created web-based application for geo-spatial visualization of large-scale datasets of literary research with server-side code in PHP & client-side code in JavaScript, including support for RESTful APIs.

Software Engineer, *American University of Nigeria*, September 2005 – April 2009.

- Worked with team to design, test, deploy and maintain enterprise software for academic data management & decision support, including web-based applications and desktop client applications using VBA, PHP, and SQL.

EDUCATION

PhD Computing Science, University of Alberta, September 2011 – May 2018.

MSc Computing Science, University of Alberta, September 2009 – August 2011.

BSc Computer Science, American University of Nigeria, September 2005 – April 2009.

TECHNICAL EXPERTISE (Selected)

Software Engineering – Object Oriented Programming, Rapid Application Prototyping, Design Patterns, UML.
Server-Side and Client-Side Coding Languages – Python, Java, C#, JavaScript/AJAX, PHP, ASP, VBA, SQL.
SQL and NoSQL Databases – MySQL/MariaDB, MongoDB, Microsoft SQL Server.
IaaS and PaaS Cloud Computing – OpenShift, Heroku, Digital Ocean, Cybera, Microsoft Azure.
Machine Learning Toolset – Keras, Google TensorFlow, Theano, Gensim, Scikit-Learn.

LEADERSHIP AND AWARDS (Selected)

President, Computing Science Graduate Student Association, University of Alberta, Canada (2014 – 2015).

Chief Returning Officer, Graduate Students' Association, University of Alberta, Canada (2014 – 2015).

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

Professional Development Award, University of Alberta, Canada (2011, 2013, 2015, 2017).

Doctoral Recruitment Scholarship, University of Alberta, Canada (2011 – 2012).

Mary Louise Imrie Graduate Student Award, University of Alberta, Canada (2010).

PEER-REVIEWED PUBLICATIONS

MedFact: Towards Improving Veracity of Medical Information in Social Media using Applied Machine Learning. Hamman Samuel, Osmar Zaiane. *In Proceedings of the 31st CAIAC Canadian Conference on Artificial Intelligence (CAI)*. Toronto, Canada, May 8-11, 2018 [*To Appear*].

Iron Mask: Trust-Preserving Anonymity on the Face of Stigmatization in Social Networking Sites Hamman Samuel, Osmar Zaiane. *In Proceedings of the 14th International Conference on Trust, Privacy & Security in Digital Business (TrustBus)*. Lyon, France, August 28-31, 2017.

PubMedReco: A PubMed Citations Recommender System for Real-Time Chat (Student Paper Award 2nd Place). Hamman Samuel, Osmar Zaiane. *In Proceedings of the 16th IMIA World Congress on Medical and Health Informatics (MedInfo)*. Hangzhou, China, Aug 21-25, 2017.

Community Question Retrieval in Health Forums. Hamman Samuel, Mi-Young Kim, Sankalp Prabhakar, Mohamed Shazan Mohamed Jabbar, Osmar Zaiane. *In Proceedings of the IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*. Orlando, Florida, USA, February 16-19, 2017.

Supporting Digital Epidemiology in Alberta via Twitter Tracking. Hamman Samuel, Osmar Zaiane, Patricia Martz. *Presented at the IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*. Orlando, Florida, USA, February 16-19, 2017.

BubbleNet: An Innovative Exploratory Search and Summarization Interface with Applicability in Health Social Media (Best Paper Award). Saeed Mohajeri, Hamman W. Samuel, Osmar R. Zaiane, Davood Rafiei. *In Proceedings of the 1st International Conference on Digital Economy (ICDEC)*. Carthage, Tunisia, April 28-30, 2016.

Golden Retriever: Question Retrieval System. Hamman W. Samuel, Mi-Young Kim, Sankalp Prabhakar, Mohamed Shazan Mohamed Jabbar. *In Proceedings of the IEEE International Conference on Healthcare Informatics (ICHI)*. Dallas, Texas, USA, October 21-23, 2015.

A Repository of Codes of Ethics and Technical Standards in Health Informatics. Hamman W. Samuel, Osmar R. Zaiane. *Online Journal of Public Health Informatics (OJPHI)*. Vol. 6, No. 2, October 2014. [*Indexed in PubMed Central*]

On Management of the Health Content Lifecycle. Hamman W. Samuel, Osmar R. Zaiane. *International Journal of Public Health Frontier (PHF)*. Vol. 2, No. 2, June 2013.

Evidence-Based Trust Metrics in Web Services. Hamman W. Samuel. *In Proceedings of the IBM International Conference on Computer Science Software Engineering (CASCON)*. Markham, Canada, November 18-20, 2013.

Findability in Health Information Websites. Hamman W. Samuel, Osmar R. Zaiane, Jane Robertson Zaiane. *In Proceedings of the IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*. Hong Kong/Shenzhen, China, January 5-7, 2012.

PSST... Privacy, Safety, Security, and Trust in Health Information Websites. Hamman W. Samuel, Osmar R. Zaiane. *In Proceedings of the IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*. Hong Kong/Shenzhen, China, January 5-7, 2012.

HCMS: Conceptual Description of a Health Content Management System. Hamman W. Samuel, Osmar R. Zaiane. *In Proceeding of the 3rd Workshop on Software Engineering in Health Care (SEHC)*. Honolulu, USA, May 22-23, 2011.

Fastest Association Rule Mining Algorithm Predictor (FARM-AP). Metanat HooshSadat, Hamman W. Samuel, Sonal Patel, Osmar R. Zaiane. *In Proceedings of the 4th International C* Conference on Computer Science and Software Engineering (C3S2E)*. Montreal, Canada, May 16-18, 2011.

Towards a Definition of Health Informatics Ethics. Hamman W. Samuel, Osmar R. Zaiane, Dick Sobsey. *In Proceeding of the 1st ACM International Health Informatics Symposium (IHI)*. Arlington, Virginia, USA, November 11-12, 2010.