MICHAEL TONDERAI MAPUNDU

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Objective

Business-minded data scientist with a demonstrated ability to deliver valuable insights via data analytics and advanced data-driven methods. I am adept at using large data sets to find opportunities for product and process optimization and using models to test the effectiveness of different courses of action. I have strong experience in using a variety of data mining/data analysis methods, using a variety of data tools, building and implementing models, using/creating algorithms and creating/running simulations. I have proven ability to drive business results with data-based insights and am comfortable working with a wide range of stakeholders and functional teams. I possess and have a passion for discovering solutions hidden in large data sets and working with stakeholders to improve business outcomes through providing data-driven, action-oriented solutions to challenging business problems.

Skills

- **Machine learning:** Record linkage using deterministic and probabilistic approaches - random forests - decision trees - Support Vector Machine - k nearest neighbor - Naive Bayes - Artificial neural nets ,Deep learning (CNN,RNN):Libraries: Keras,Spark,Scikit,NLTK,Theano,Flask,Numpy,Matplot,Tensorflow

- **Data Analysis :** Quantitative and qualitative research: data collection instruments and data analysis tools - Data storage & Analysis using advanced Excel, SQL,Pentaho,Informatica ETL, MySQL, Postgresql, Oracle, STATA,STATISTICA,R, SPSS22.0 & Oracle 11g - Researches and prepares statistical reports for management decision-making

- **Artificial Intelligence:** Expert Systems and Artificial Intelligence (CLIPS, Prolog, Protégé, Formal Concept Analysis, Ontologies, knowledge representation, genetic algorithms, machine learning)

- **LMS**:SAKAI,MOODLE,BLACKBOARD,OCEAN

- **Web Technologies:** , Html5, XML, CSS3, PhP, jQuery, Ajax, Bootstrap & Java Scripting- Networking: CISCO Router config, Wireshark, VMWare, ITIL, Win Server 2008/2012, Redhat Linux 8.0, UBUNTU

- Excellent skills across the entire Data life cycle (has instinctive ability to know what the data flow should look like, what hardware is needed, what predictive modelling, analytical computation and optimization techniques will apply etc.)

- A rapid lateral thinker, with greatest strengths in ability to remain calm under pressure and to approach problems with an intrepid spirit and organizational fearlessness, taking to complex enterprise-wide data opportunities in a relentless and calculated fashion.

- Excellent all round interpersonal and communication skills, coupled with strong project team and stakeholder management skills, has the ability to present to all levels of business, creating a picture of financially valuable solutions in a positive, honest and transparent way, making the sale to the client while concurrently eliciting team trust and buy in.

- Strong managerial and leadership capabilities with broad technical skills: a modeler of mathematical, statistical and logical problems

Databases: Ms. Access, MySQL, CITUS DB, PostgreSQL, REDCAP, T-SQL SQL & Oracle 11g: 2008 and Above; Distributed, Parallel & Standalone DBASES

Networking: CISCO Router config, Wireshark, VMWare, ITIL, Win Server 2008/2012, Redhat Linux 8.0, UBUNTU

Programming Technologies: Python, R, C #, C++, XML, HTML, Open GL, CSS, Flash CSC 6, Android, Eclipse, J2ME, .Net , ASP.Net, MVC 4 or 5 , Core Java [J2SE, J2EE], JBoss,JQuery,JSpring,JSP, MVC (MAVEN) (INTELLJIDEA), APACHE TOMCAT 9.0.1,Python,R,Mirth Connector,HL7 SOUP,PHP

Experience

SEPTEMBER 2017 – CURRENTLY

Lecturer/Data Scientist / Wits University, Parktown, Johannesburg
Machine learning and Deep learning Msc projects.
Active participation in post-graduate students' research supervision - Teaching and coordination of the MSc Epidemiology programme - Contribution to and playing a leading role in the development and expansion of the Wits SPH research portfolio - Community engagement - IT support (School of Public Health Server Administration & Management) - Developing data collection instruments - Research - Consulting in Health & Demographic Surveillance project and managing and monitoring projects.

1 APRIL 2016- 31 AUGUST 2017
IT Lecturer / Monash University, Rooderpoort, Johannesburg
Academic administration - Development of assessments-Active participation in students' research supervision - Teaching and coordination of IT programme - Contribution to and playing a leading role in the development and expansion of the Monash research portfolio -Community engagement.

2 FEBRUARY 2010- 31 MARCH 2016
IT Lecturer / CTI/Pearson/London School of Business Management/Heriott watt University
Academic administration - Programme coordination - Assessment development - Moderation - Coordination of the Exchange programme -Student supervision & mentoring

3 JANUARY 2005- 31 DECEMBER 2008
Database Administrator / Zimasco Pty Ltd, Gweru, Zimbabwe
Software installation and Maintenance - Data Extraction, Transformation, and Loading - Specialized Data Handling - Database Backup and Recovery - Security - Capacity Planning - Performance Monitoring & Database Tuning

1 JANUARY 2003- 31 DECEMBER 2003
IT Support -Internship/ ABC Bank, Harare, Zimbabwe
To diagnose and resolve software and hardware incidents, including operating systems (Windows and Mac) and across a range of software applications. - To assist all our users with any logged IT related incident when called upon - To accurately record, update and document requests using the IT service desk system. - To install and configure new IT equipment. - To resolve incidents and upgrade different types of software and hardware

LANGUAGE SKILLS: INDICATE COMPETENCE ON A SCALE OF 1 TO 5 (1 - EXCELLENT, 5 - BASIC)

LANGUAGE	Reading	Speaking	Writing
English	1	1	1
Afrikaans	5	4	5
Ndebele	1	1	1
IsiZulu	2	2	2

Education
PhD in Public Helath / Wits University, Johannesburg South Africa (In progress)
Machine learning computational techniques in Verbal Autopsy.

APRIL 2017
Masters in IS (cum-laude) / Vaal University of Technology, Vanderbijl park, South Africa

DECEMBER 2004
BSc Honors in IS / Midlands State University, Gweru Zimbabwe

MEMBERSHIP OF PROFESSIONAL BODIES:

Institute of IT Professionals, South Africa (IITPSA) 2010 -2016 (No-M045552)
Southern African Research & Innovation Management Association (SARIMA) member 2016 (No- MEM16-072)

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Certifications & Courses

- Wits University Project Management Course (Distinction student)
- Skill Factor Consultants ,South Africa [2013] Certificate - Qualified Assessor/moderator Design, Develop and Implement assessment of learning in Higher Education and Training
- Pearson UK [2013] Certificate - BTech Assignment Writing Developing Holistic, cross unit assessments
- Pearson UK [2013] Certificate - Delivering a more vocational BTech
- Triple E South Africa [2010] Certificate- Adult Basic Education and Training

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Honours & Awards

- Cum laude student at Masters level and got a University Chancellor's award
- Best researcher Technology enhanced learning at CTI indaba
- Best Oral presentation Wits School of Public Health in field of Innovation in Teaching and Methodology

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Masters Supervision

Title	*Progress*
An Integrated Knowledge Ecosystem for Infant Mortality in KHDSS	Graduated December 2019
An Investigation of the Presence of Cervical Schistosomiasis in Patients with Cervical Cancer and Pre-Cancer Lesions: A Text Mining Approach	Pending final submission March 2020
A record linkage framework to uniquely identify female sex-workers registered at Sisters with a voice clinic in Gwanda, Zimbabwe between 2017-2019	Pending final submission March 2020
A supervised machine learning approach to classify disease status of Notifiable Medical Conditions at NICD South Africa	Pending final submission March 2020
Extracting the leukemia diagnosis from narrative laboratory data using big data tools:A Text Mining Approach	Pending final submission March 2020
Record Linkage of TIER.Net Antiretroviral therapy (ARV) datasets to ETR.Net Tuberculosis (TB) datasets using deterministic and probabilistic algorithms in South Africa, between 2017-2018.	Pending final submission March 2020

Publications

Presented at 1ST VUT INTERDISCIPLINARY RESEARCH AND POSTGRADUATE CONFERENCE, 09-10th November 2016 - VUT Southern Gauteng Science and Technology Park, Sebokeng Campus. Theme: Advancing Research that Matters: Developing a Vibrant Research Culture.

Attended the Research Electronic Data Capture (REDCap) Conference, 1st of September 2017-Wits University, Wits Health Consortium.

Using big data techniques to improve prostate cancer reporting in the Gauteng province, South Africa. Oral presentation at the "3rd Pathology Research and Development Congress – PathReD 2019. 18-21st July 2019.

Using big data techniques to improve prostate cancer reporting in the Gauteng province, South Africa. Poster presentation at the "3rd Pathology Research and Development Congress – PathReD 2019. 18-21st July 2019.

Using supervised machine-learning algorithms to assign prostate biopsy histological findings. Oral presentation at Wits School of Public Health Research Day 22 August 2019.

Mapundu MT. & Musara M. E-Portfolios as a tool to enhance student learning experience and entrepreneurial skills, SAJHE, Vol. 33 No. 6 of 2019.

Using text mining techniques to extract prostate cancer prognostic information (Gleason score) from semi-structured narrative laboratory reports in the Gauteng province, South Africa. International Journal of Medical Informatics. (In review)

References

Professor Jonathan Levin
Wits University
School of Public Health
Contact: jonathan.levin@wits.ac.za
Relationship: HOD

Doctor Chodziwadziwa Kabudula
Wits University
Agincourt HDSS Data Manager
Contact: Chodziwadziwa.kabudula@wits.ac.za
Relationship: PhD Co-supervisor