

Deep Learning IndabaX @NUST

Saturday 15th December, 2018

1 Motivation

Big Data is one of the *research focus areas* (RFA) at the Faculty of Computing and Informatics (FCI), Namibia University of Science and Technology (NUST¹). It focuses its research efforts on *smart data infrastructure*, *advanced analytics* and *dependable systems* (fault-tolerant systems). The *Advanced Analytics* component also promotes *machine learning*, including *deep learning*.

In 2018, thanks to the IndabaX initiative and funding, we organised a one-day training on machine learning and deep learning. The event helped create awareness about machine learning and deep learning and sharpen the skills of the students actively contributing to the research effort. It also provided the stepping stones for building an active community around deep learning and big data. Building on the success from last year, we wish to organise a similar event this year, blending practical sessions and theoretical discussions on the advances in deep learning. Activities of this kind will undoubtedly contribute, nationwide, to building capacity to addressing an ever growing challenge faced by both businesses and Government agencies; data-driven decision making.

2 Strategy for Diversity and Inclusion

First and foremost, at every level of involvement, our approach has considered gender sensibly. Second, as much as possible, various perspectives have been integrated. For example, the organising team includes views from both academia and the industry. As such the resulting programme does not focus only on the research or academic needs. Instead, it caters to a broader swathe of needs. As for the speakers, we carefully selected speakers from academia, Government agencies and industry to help package and deliver a set of practical lectures to deep learning as well as recent advances in the field. Finally, our strategy for reaching out and selecting participants will follow similar criteria.

3 Organising Team

Lameck M. Amugongo Big Data and Open Data enthusiast with a strong interest in AI and machine learning, he is a GSM Business Intelligence Analyst at Telecom Namibia and a Lecturer at NUST;

Suoma Hangula She holds a Bachelor degree Honours in Computer Science;

Cameron Macrae He is a Lecturer at NUST. His research interests include machine learning, optimisation and data analytics;

José G. Quenum He is an Associate Professor at NUST, leading the Big Data RFA at FCI. His research interests include Big Data and Distributed Systems;

Annastasia Shipepe She is a Lecturer at UNAM²;

¹www.nust.na

²University of Namibia, www.unam.na

4 Description of our IndabaX

The type of IndabaX we wish to organise for this training is a structured series of tutorial lectures by speakers from Namibia, followed by a review of theoretical advances in deep learning. Tentatively, we plan to run the training on Tuesday 23rd April, 2019. A summary of the programme is depicted in Table 1. We expect around twenty five (40) participants for the training from both universities and the industry. To advertise for the event we shall combine several approaches, including outreach to lecturers and students, social media as well as any other communication means available within the Faculty.

Table 1: Summary of Programme

Time Slot	Topic	Speaker
08:30 - 10:30	Deep Learning Tutorial I	Dr Cameron Macrae Dr Guy Z. Lusilao Prof. José G. Quenum
	Namibia University of Science and Technology	
	Coffee Break	
10:45 - 13:15	Deep Learning Tutorial II	Dr Cameron Macrae Dr Guy Z. Lusilao Prof. José G. Quenum
	Namibia University of Science and Technology	
	Lunch Break	
14:15 - 15:15	Big Data Challenges in Namibian Organisations	Mr Pieter Kruger Standard Bank Namibia
	Coffee Break	
15:30 - 17:00	<i>Advances in Deep Learning</i>	
	ANN Architecture for Deep Learning	Dr Nalina Suresh University of Namibia
	Deep Learning Applications	Prof. Dharm S. Jat Namibia University of Science and Technology
	Deep Learning and IoT	Dr Paulus Sheetekela International University of Management

5 Budget

Item	Quantity	Unit Price (ZAR)	Amount (ZAR)
Conference Room (Full Day)	1	3000	3000
Coffee and Tea Break	2 × 50	15	1500
Lunch	50	196	9800
Advertisement	1	5000	5000
Total			19300