AFRICAN CENTRE OF EXCELLENCE IN DATA SCIENCE (ACE-DS)

Call for short course registration:

Machine learning and computational statistics

The University of Rwanda — College of Business and Economics (UR-CBE) through the African Centre of Excellence in Data Science (ACE-DS) wishes to inform all interested professionals with strong quantitative research backgrounds to register for a "Machine learning and computational statistics" Summer course to be held at the African Centre of Excellence in Data Science-ACE-DS/University of Rwanda Gikondo Campus from 23rd -27th March at 6:00 pm to 10:00 pm every day.

Overview of Machine Learning and Computational statistics course

This course is organized by the UR/CoIlege of Business and Economics through the African Centre of Excellence in Data Science. It will be conducted by Professor Nathan Cahill and Ms Sophia Kotok from Rochester Institute of Technology (RIT), USA.

The aim of this course's implementation in Rwanda is to enhance the capacity of the Rwandese to provide cutaged analytical techniques for scientific evidence to support (or refute) the efficacy and scalability of policies and programs within Rwanda and Africa.

The UR/Data Science Machine Learning Summer Course is a 5-days event where participants take intensive courses on a variety of topics in machine learning, ranging from optimization and Bayesian inference to deep learning, reinforcement learning and Gaussian processes. The objective this Course is to give a broad overview of many relevant topics in machine learning and to help training the next generation of machine learning researchers.

The lectures will be of tutorial style to boost the state of the art in Machine Learning subject.

Objectives

This course provides practical skills in data analytics using machine learning & computational statistics approaches. The course uses real data as motivating examples for each topic to allow students to easily digest the concepts in a friendly manner. The specific lecture topics are as follows:

- Statistical learning theory framework, stochastic gradient descent, Matrix/vector differentiation
- Excess risk decomposition, LI/L2 regularization, Lasso algorithms, sub-gradient descent
- Loss functions, convex optimization, Support Vector Machine ernels, kernel ridge regression, kernelized Support Vector Machine; Trees, bias and variance decomposition
- Ensemble algorithm methods: bootstrap, bagging, random forest, AdaBoost

- Gradient boosting, neural networks Spring Break
- Natural exponential families and generalized linear models
- Bayesian networks, class-conditional models, naïve Bayes
- Clustering, Gaussian mixture models, EM algorithm
- Bayesian methods, hierarchical models, Gibbs sampling, Singular Value Decomposition, PCA, Linear Discriminant Analysis

Qualification of participants

The course is designed for Researchers/Postgraduate students/other professionals with strong knowledge in quantitative methods. The applicant should have experience of working with data-related projects.

Award

Candidates that successfully complete this course will be awarded a Certificate of Completion.

Application process

To apply, please e-mail the following materials to nzaramyimanac@gmail.com with a copy to (kabanoignace@gmail.com) by 18th March 2020.

- Motivation Letter
- Curriculum Vitae

The selected candidates will be notified by 18th March 2020 and will be requested to pay the registration fees.

Registration Fees

190,000 RWF (equivalent to 200 USD) for Rwandans and East African citizens

300 USD for others

Account Details

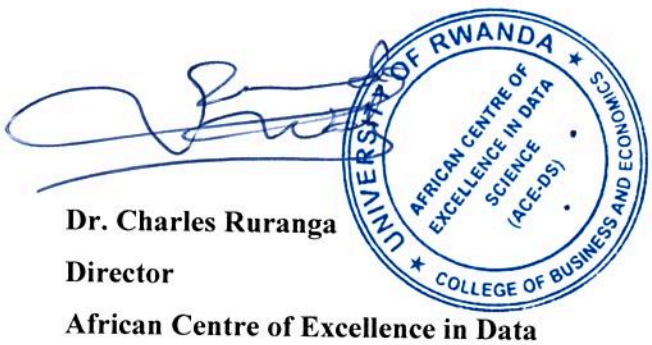
Bank Account Number (RWF):00094-07744796-73

Bank Account Number (USD):00094-07744797-74

Bank Account Name: UR/ACE-DS

Bank Name: Bank of Kigali

SWIFTCODE: BKIGRWRW



Dr. Charles Ruranga

Director

African Centre of Excellence in Data