ARTIFICIAL INTELLIGENCE AND LIFE SEASON II EVENT CONTENT

Event theme: Artificial Intelligence for People

Welcome to Artificial Intelligence and Life Season II.

Before you start

AI and LIFE:

This is an event that aim at sharing knowledge about artificial intelligence and how it impacts our daily lives, this is done through timed training or workshops, currently oriented at **The University of Dodoma, College of Informatics and Virtual Education**. The second season of the event for the year 2019 will be taking place **3rd to 6th of December,2019**.

The event is educational and informative, at the same time it is a people-to-people event, that means it also aims at bringing people together, so that they can know each other.

Educational Objectives:

Become knowledgeable in Artificial Intelligence in both technical and non-technical parts of Artificial Intelligence, this will involve understanding an intellectual history of Artificial Intelligence, Python programming language, different Python packages used in data science and machine learning, learn different machine learning algorithms and learn how to implement them from scratch using frameworks like NumPy, pandas and PyTorch, also deep learning and its related concepts.

Prerequisites: Before joining the event, you should have the basic knowledge of Computer Fundamental.

Contact Info

If you have questions about anything, you can reach us at telesoftai@gmail.com

AI and LIFE Event Info

Artificial intelligence and life event offers you a solid introduction to the world of artificial intelligence. In this event, you'll master fundamentals that will enable you to go further in the field, launch or advance a career, and join the next generation of artificial intelligence talent that will help define a beneficial, new, AI-powered future for our world.

You will study cutting-edge topics such as Mathematical principles behind machine learning algorithms and deep learning algorithms, and build projects in frameworks like PyTorch and NumPy.

The event is comprised of different sessions and 4 projects. Each project you build will be an opportunity to prove your skills and demonstrate what you've learned in sessions.

Length of Event: 4 days
Frequency of Sessions: Practical-based
Number of Reviewed Projects: 4
Instructional Tools Available: Lectures, Interactive Jupyter notebooks, Practical, and Question-answering platforms: Knowledge, and Study Groups.

HOW DO MACHINE UNDERSTAND THE WORLD?

Description.

The session aims at providing an intellectual history of Artificial Intelligence and the drivers to adopt this revolutionary technology.

Learning Objectives

- To know what and why Artificial Intelligence.
- To know the intellectual history of Artificial Intelligence.
- To know why to adopt Artificial Intelligence.

WHY LEARN MACHINE LEARNING?

Description.

This session provides understanding on different advantages of learning machine learning and it will be based on the applications of machine learning in our real life.

Learning Objectives

- To understand in depth, the integration of machine learning and security basically information security.
- To understand the impacts of machine learning in health sector.
- To understand how machine learning is useful in communication networks and services.
- To understand business cases where we can apply machine learning.
- To understand what AI can do with education.
- To understand the skills needed for an AI future.

MACHINE LEARNING ON MARKETING.

Description.

Marketing is one of the essential tool in any business growth, this session will provide different ways in which you can leverage machine learning in your business.

Learning Objectives.

- To understand customers
- To understand AI driven marketing.
- To understand measuring customer feedbacks.

MACHINE LEARNING.

Description

This session will provide you the basic building blocks of machine learning and what is behind machine learning algorithms with implementation.

Learning Objectives.

- To understand the prerequisites for machine learning.
- To understand mathematical principle behind ML algorithms.
- To implement machine learning algorithms using available frameworks.
- To evaluate and measure the performance of machine learning models.
- Main challenges of Machine Learning, in particular under fitting and overfitting (the bias/variance trade-off).

PYTHON

Description

Python is regarded as being a great hobbyist programming language, it is recorded as the most growing and learned language for year 2109, yet it is

also an extremely powerful language. In this session you will learn from basics to advanced.

Learning Objectives.

- To understand Python programming language.
- To understand how to apply Python in solving different programmatic problems.
- To understand Python in machine learning.

DATA ANALYSIS AND VISUALIZATION.

Description

In this session you will be equipped with the knowledge on different data analysis and visualization tools, and how to understand the data, and extracting the useful information for machine learning algorithms.

Learning Objectives

- To prepare, analyze, visualize and interpret data.
- To understand data processing tools.
- To apply the data processing tools.

HANDS ON PRACTICE: DATA WRANGLING

Description.

This session will provide a hands on data wrangling, by using a project which will provide relevant tasks for data manipulation.

Learning Objectives.

- To understand data categories and data manipulation.
- To apply data wrangling techniques' in handling text data.
- To apply data wrangling techniques' in handling image data.

MATHEMATICS FOR MACHINE LEARNING.

Description

This session will provide the foundation of Mathematics needed for machine learning in describing and inferencing machine learning algorithms.

Learning Objective.

- To apply the principles of calculus in machine learning algorithms.
- To apply the theories of probability and statistics in describing machine learning algorithms and solutions.
- To make valuable of numerical optimization in optimizing machine learning solutions.

MACHINE LEARNING

Description

Here you will learn different machine learning algorithms and the machine learning roadmap from data processing to model fine turning.

Learning Objective

- To understand machine learning algorithms.

- To apply machine learning algorithms.
- To apply model fine tuning.

ANALYSIS OF MACHINE LEARNING ALGORITHMS.

Description

The session will provide you with the knowledge of different machine learning algorithm, and when to use them, also you will learn the pros and cons of different machine learning algorithms.

Learning Objective.

- To work with machine learning algorithms effectively.
- To apply analysis of algorithm on context based (problem context).
- Assess each algorithm before applying it.

MACHINE LEARNING PIPELINES

Description

The session will provide hands on practice on machine learning pipelines by the use of end to end machine learning project, you will learn machine learning rules and how to structure machine learning projects.

Learning Objectives

- To understand and apply machine learning pipelines.
- To manage and structure machine learning projects.

- To understand machine learning project management.

PYTORCH

Description

In this session you will learn PyTorch frameworks and how to use it in implementing deep learning algorithms ranging from regular neural networks to convolutional neural networks.

Learning Objective.

- To apply PyTorch in implementing deep learning algorithms.
- To understand if PyTorch or TensorFlow and when to use each of them.

DEEP LEARNING

Description

The session will introduce you to deep learning and the building block of deep learning, neural networks, with implementation using PyTorch framework using project.

Learning Objectives.

- To understand neural networks.
- To apply mathematical principles in training a neural network.

DEEP LEARNING SPECIALIZATION

Description.

In this session, you will learn the most popular deep learning sub fields, Computer vision and Natural language processing, and you will have hands on practice on a project for Computer vision using both regular neural networks and convolutional neural networks, and in case of natural language processing you will be introduced to traditional techniques and deep learning in natural language processing.

Learning Objectives.

- To apply convolutional neural networks in problems solving which involves image processing.
- To understand the branches of natural language processing and the techniques used to solve problems involving understanding and generation of natural languages.