



UNIVERSITY
OF
JOHANNESBURG

SCHOOL OF ACCOUNTING

ARTIFICIAL INTELLIGENCE PERSPECTIVES FOR ACCOUNTANTS

AI

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EMBRACE 4IR AND UPSKILL
YOURSELF FOR THE 21ST CENTURY



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ARTIFICIAL INTELLIGENCE: PERSPECTIVES FOR ACCOUNTANTS

AI

INTRODUCTION

The world is changing rapidly. There is no time in history when virtually every aspect, whether it is human life, economics, or politics, among other things, has been affected by the rapid change brought through by developments in information technology. These technological advancements are fusing physical, digital, and biological spheres where disruptive technologies and trends such as the Internet of Things (IoT), robotics, virtual reality (VR), and artificial intelligence (AI) are changing the way we live and work. The convergence of these technologies, which heralds the current developments, is often referred to as the fourth industrial revolution (4IR).

Similar to the other three revolutions, humans revolutionized the way they do things, including businesses. The steam engine epitomized the first industrial revolution, the second industrial revolution made mass production possible, and the third industrial revolution saw the advent of mainframe computing. The 4IR holds the promise of leveraging the confluence of new technologies such as the IoT, Robotics, VR, and AI to use the cumulative effect of this to positively impact lives, business efficiencies, and productivity.

A need was identified by the School of Accounting to create a short learning program for accountants concerning Artificial Intelligence. As the world races, there is a risk that accountants could be left behind and not operate in a world dominated by disruptive technologies. This course will seek to develop knowledge for accountants as to what implications AI would have in business. Qualifying students will learn about AI, including its components such as Machine Learning, Natural Language Processing, and Robotics. Our approach is to examine AI and its forms from the perspective of a computer scientist. This is followed by the articulation of how such a form of AI could be interpreted in accounting and business

This SLP will create a cohort of accountants who will know the implication of the application of AI into the business. This is envisaged as it will enhance the value-add provided by professionals in the business' economic and business value chain. The short learning program will contribute to UJ's goals in terms of the fourth industrial revolution and strengthen its capacity-building role.

COURSE CONTENT

The following topics are covered in this course:

- ✓ High-level Introduction to Artificial Intelligence
- ✓ Machine Learning
- ✓ Natural Language Processing
- ✓ Robotic Process Automation
- ✓ Human Machine Relationship and Ethical Implications of AI
- ✓ The future of(is) Artificial Intelligence

HOW ARE THESE TOPICS ADDRESSED WITHIN THE COURSE?

The first unit is intended to guide students through the evolution of fundamental AI technologies. How the key AI technologies have evolved and their impact on the industry and business will be explored. The concept of collective intelligence will be introduced. At this point and as part of the ongoing assessments, students will be required to consider their own organization in terms of applying AI technologies.

In the second unit, students will be introduced to the concept of Machine Learning. Both deep and shallow learning will be introduced. At its core, ML aims to design, understand, and use computer programs to learn from experience. How can ML be integrated into the finance function? Students will be expected to put together ideas as to how ML could be applied in their organization.

Our focus in the third unit will be the NLP. Essentially, the NLP refers to an AI technology developed to process human language intelligently. In this unit, students will be exploring the NLP functions, which, amongst others, include machine translation, summarization, and sentiment analysis. Using these, students are expected to learn and reflect on how NLP can be deployed in the business. In the form of an assessment, students will be expected to put together ideas and reflect as to how the NLP can be strategically deployed in their organization.

The fourth unit's focus will be to look at how robotics can be used as a key element for transformative technologies. Students will reflect on whether and how robotics can be deployed in their organization's context.

In this fifth unit, students will have an opportunity to be introduced to other forms of AI, including the growing field looking at the human-machine relationships. By integrating AI into the business processes, what would be the impact of this on jobs? Are there social and ethical implications of adopting AI and related technologies? In an assessment, students will reflect on the ethical

implications of deploying AI in the context of their organizations. They will further reflect on whether a relationship between employees and an algorithm could be formed; if it does get formed, how will that relationship be projected?

The final unit allows students to imagine the future of organizations. It further allows students to imagine their role within the business in the era dominated by AI. Using the collection of information from units already completed, students will be expected to put together a roadmap for their own organization to reflect on the strategic implementation of AI and collective intelligence into the selected business process that they would have chosen.

HOW IS THIS COURSE STRUCTURED?

Each unit comprises different video content that you are required to view. Furthermore, as part of each unit, there are additional resources that you will need to explore. These include research articles, websites, and videos. These resources add to the discourse for each topic covered. The course also includes mid-unit reflections that allow students to reflect on what they have learned and possibly use what they have learned in real life. Throughout each unit, you will be prompted to reflect on the unit content via mid-unit reflections and submit a unit-specific assignment.

WHAT IS THE EXPECTED DURATION OF THE COURSE?

The course duration is eight (8) weeks from the date of registration to completion. It will take approximately 40 hours to complete. At the end of each unit, you will be required to complete a short assignment and a final all-encompassing assignment at the end of the course. These assignments will count toward a final grade. You will be awarded a certificate upon successful completion. Remember, this course is competency-based. Since the course is 100% online, you have maximum flexibility and can start the course at any point in time.

100% FLEXIBLE

100% ONLINE

COMMENCE YOUR LEARNING AT ANY POINT IN TIME

START RIGHT NOW

ADMISSION REQUIREMENTS

The course is offered to all members of the South African Institute of Chartered Accountants (SAICA). You will be required to upload proof of this qualification.

Course fee: R4,150

Duration: 8 weeks

HOW TO APPLY

[CLICK HERE](#) (Enter the token 'SAICA' to apply for the correct course)

If you are a **CURRENT UJ STUDENT OR ALUMNI**, log in to Ulink and then

- click on iEnabler registration;
- select academic or residence application;
- unhide academic applications;
- click on "add new academic application" and
- enter the qualification code 'SAICA' and follow the instructions to register

For **UJ ALUMNI STUDENTS**, open iEnabler, then

- select academic or residence application;
- unhide academic applications;
- click on "add new academic application" and
- enter the qualification code 'SAICA' and
- create a pin via one of the buttons or the call centre

PLEASE DIRECT ALL ENQUIRIES TO: accounting4IR@uj.ac.za



Flexibility, Start at
any point in time



No travel
required



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