ICT for
KOSOVO'S
Growth

Prishtina REA

CALL FOR APPLICATIONS FOR ICT TRAINING PROGRAM

Application Period:
13 - 31 January 2025

2025

implemented by:

WEglobal

REA
Prishtina REA

ICT for
KOSOVO'S
Growth

Prishtina REA

Training
Modules:

**CYBER
SECURITY**
PROFESSIONAL

**WEB APPLICATION
DEVELOPER**
PROFESSIONAL

**WEB APPLICATION
DEVELOPER**
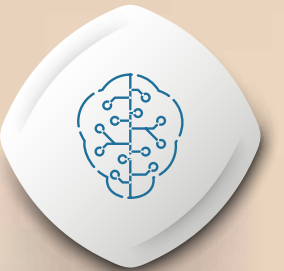PRACTITIONER

**ENTERPRISE JAVA
& MOBILE**
DEVELOPER

PYTHON
PROGRAMMING

**BIG DATA ANALYTICS
&
CLOUD COMPUTING**

**MACHINE
LEARNING**

ARTIFICIAL
INTELLIGENCE

REA
Prishtina REA

× EDUCATION

- ICT Related studies
- University Degree relevant to field

× DEGREE

- BS
- High School Diploma
- Undergraduate
- BA
- MA, MSC
- Up to 1 year
- Between 1 and 2 years
- More than 2 years

× EXPERIENCE IN THE PROGRAMMING LANGUAGES

- Fundamental awareness (basic)
- Novice (limited experience)
- Intermediate (Practical application)
- Advanced (Applied theory)
- Expert (Recognized Authority)

× EXPERIENCE IN CYBER SECURITY
(Only for Cyber Security applicants)

- Up to 1 year
- Between 1 and 2 years
- More than 2 years

× EXPERIENCE IN IT PM

- Up to 1 year
- Between 1 and 2 years
- More than 2 years

× ENGLISH LANGUAGE ABILITY

- Good English language ability
- Understanding ability

× LANGUAGE

- English
- Shqip
- Serbian

MODULES

	TECHNICAL CRITERIA	ESSENTIAL CRITERIA	DESIRED CRITERIA
× Enterprise Java and Mobile Application Developer	Software Development Experience		
× Web Application Developer Professional × Web Application Development Practitioner × Python Programming	Software/Web Development Experience		
× Cyber Security Professional	IT/Cyber Security Experience	ENGLISH LANGUAGE UNDERSTANDING	ALBANIAN AND/OR SERBIAN LANGUAGE UNIVERSITY DIPLOMA
× Big Data Analytics & Cloud Computing	Basic Knowledge on Statistics Fundamental Knowledge on Python Programming		
× Machine learning	Basic knowledge on Python Programming and Statistics		
× Artificial Intelligence	Advanced Knowledge on Programming		Knowledge on Machine Laearning and Data Science

- *Considering the essential criteria: 100% should be met*
- *Desired criteria shall be used by the TAT to make a final decision*

Short description, What Learns, or Benefits will be produced from course outline

1. Module# 1: Cybersecurity Professional

DESCRIPTION

Cybersecurity is a growing industry that needs skilled professionals to fill entry, mid, and advanced-level jobs. Cybersecurity jobs are in high demand and the demand is expected to grow by 18% over the next five years. 2022 has already become a record-breaker for the sheer volume of phishing scams, cyberattacks, data breaches and crypto heists. This Training module aims for the training of individuals who want to understand the general Cyber Security features and get practiced in the main aspects of cybersecurity as in the outline as well as get hand-on experience on Offensive and Defensive Security -Ethical Hacking. This training module focuses more on the protection of organizational assets and upon completion of this module of training, you will be able to understand the details of cybersecurity measures and can get employed or initiate business activity in the fields of IT Security.

According to the "Future of Jobs Report 2025" published by the World Economic Forum, in the next five years, technological skills are projected to grow in importance more rapidly than any other type of skills. Among these, cybersecurity is among the top three fastest-growing skills.

TARGET AUDIENCE

Individuals who have the fundamental IT Systems, Operating Systems, Networking, It Security, Scripting, Programming, and database knowledge. Because the deep-dive activity will exist in the module applicant should have the fundamental background for the IT Systems. One year of experience in the field of IT is preferred.

TRAINING CONTENT

- Infrastructure security and configuration management
- Credential management, authentication, and authorization mechanisms
- Credential management, authentication, and authorization mechanisms

- Cross-Site Scripting (XSS), Cross-Site Request Forgery (CSRF/XSRF) protective, and
- HTTP headers
- Digital deception
- Introduction and Information Gathering
- Vulnerabilities and configuration, identity, and authentication testing Injection attacks Exploitation
- Password Attacks and post-exploitation Artificial Intelligence in Cyber Security

2. Module# 2: Web Application Development Professional

DESCRIPTION
This Training module aims for the training of individuals who want to specialise in the use of the modern WEB Application development features including the MVC technology, APIs and Frontend frameworks to work as a full-stack web developer. Upon completion of this module, you will be able to start to develop modern professional looks like web applications including the UI and Backend technologies.

TARGET AUDIENCE
Individuals having fundamental IT Systems, OS, Networking, Web technology, Design, Script- ing, Programming knowledge. You should have at least one year of programming experience.

TRAINING CONTENT

- HTML 5
- CSS
- Bootstrap 5
- JAVASCRIPT
- Ajax
- jQuery
- API Development
- REACT
- MVC

3. Module# 3: Web Development Practitioner

DESCRIPTION

This Training module aims for the training of individuals who want to specialise in the use of the modern WEB Application development features including the CMS, PHP, Graphics Design, Databases to work as a full-stack web developer. Upon completion of this module, you will be able to start to develop modern professional looks like web applications from scratch.

TARGET AUDIENCE

Individuals having basic IT Systems, OS, Networking, Web technology, Design, Scripting, Programming knowledge. One year of programming experience is preferred.

TRAINING CONTENT

- HTML 5
- CSS
- SEO & publishing
- BOOTSTRAP 5
- JAVASCRIPT
- jQuery
- Adobe Photoshop
- WordPress and PHP

4. Module# 4: Enterprise Java and Mobile Application Developer

DESCRIPTION

This Training module aims for the training of individuals who want to specialize in the development of Enterprise Java applications which is highly demanded by the market. The popular Java Spring Framework will be touched on in detail to enable the full stack application development by using Java technologies. The training on Mobile Application development by using the Kotlin language shall improve the developer to work in the enterprises and governmental organizations. The training will combine Mobile Application development by using the Java language which will improve the developer to develop professional mobile applications by using Java.

TARGET AUDIENCE

Individuals having basic IT Systems, OS, Networking, Web technology, Design, Scripting, Program- ming. At least one year of programming experience is preferred.

TRAINING CONTENT

- Basic Program Structure, Compilation, Tools, Console In/Out
- Intro to Object Oriented Programming: Procedural to OO, Basic Concepts,
- Class, Object, Interface, Modifiers"
- Java Anonymous Classes, Anonymous Objects, Functional Interfaces, Lambda Expressions
- Java Unit Testing
- Java Database Connectivity: Basic Operations with famous Databases + NoSQL Databases (Firebase, Mondo DB)
- Java GUI programming
- Basic Design Patterns: Introduction, Strategies, Implementation, Attacks-Defenses
- Java Threading
- Introduction to Spring Framework, Spring Boot, JPA, Hibernate Introduction to Java Micro-
- hardness Framework (JMH)
- Android Basic Activity UI manipulation. Using Layouts, handling screen
- Orientation
- Android Basic Event Handling: Annotations, Listeners, Dialogs and
- Notifications
- Passing and Receiving Data to and from Android Apps and Activities Android Sensors, Location Services (GPS) and Runtime Permissions Android and SQLite Databases
- Android Audio Interaction: Speech Recognition and Text-To-Speech

5. Module# 5: Python Programming
DESCRIPTION

Python is currently the most widely used multi-purpose, high-level programming language. It is used in machine learning, web development, desktop applications, and many other fields. This Training module aims for the training of individuals who want to study with the Python programming language has an increasing trend in the world and it is already being demanded by the domestic market. Training shall enable the developer to become familiar with data science features whereas to use python in all layers of the programming stack.

TARGET AUDIENCE

Individuals having basic IT Systems, OS, Networking. One year of experience in the field of programming is preferred.

TRAINING CONTENT

- Introduction to Python, Interpreter, flow control, basic types
- Python Functions
- Python Data Structures
- Python Modules
- Python In/Out
- Python Exceptions-Exception Handling, Errors
- Python Classes
- Python File Handling
- Python DB: MySQL, MongoDB
- Python Machine Learning
- Python - Django Framework
- Python-Data Science

6. Module# 6: Big Data Analytics & Cloud Computing

DESCRIPTION

Big data analytics helps organizations harness their data and use it to identify new opportunities. That, in turn, leads to smarter business moves, more efficient operations, higher profits and happier customers. Becoming a data scientist takes more than the understanding of basic skills like statistics and programming in various languages. The need to develop one area of technical analytic expertise while being conversant in many others is very crucial. Going beyond descrip- tive analytics has become essential to meet the complexities of information requirement for decision making as well as developing strategies to drive greater profitability, improved perfor- mance and competitiveness.

On the other hand, companies are increasingly storing large amounts of data online due to the increase in Big Data. Cloud computing is becoming increasingly vital for not just the software developers but also in the field of big data analytics: cloud computing makes expanding computing power and deploying data solutions much easier and is therefore handy for data scientists who are digging into large datasets.

According to the "Future of Jobs Report 2025" published by the World Economic Forum, in the next five years, technological skills are projected to grow in importance more rapidly than any other type of skills. Among these, Among these, AI and Big Data top the list as the fastest-growing skills.

This course builds expertise in advanced analytics, data mining, predictive modeling, as well as cloud computing and Microsoft Azure. The aim of the course is to introduce the trainees to the important big data management techniques, analytical tools and cloud computing (MS Azure).

TARGET AUDIENCE

Individuals with fundamental knowledge on Database management, Business Intelligence, Statistics and basic knowledge on programming with experience in Python. Having fundamental knowledge in python program- ming will be an advantage

- Data Science Fundamentals
- Cloud computing fundamentals
- Microsoft Azure concepts and functions
- Azure SQL Database
- Introduction to Azure Cosmos DB
- Customizing Charts on Azure Dashboard
- Creating Web Apps in Azure
- Managing Virtual Machine via Azure Mobile App
- Introduction to Azure Data Factory
- Introduction to Visualization
- Data Processing and Cleaning using Panda-Python
- Managing Big Data using Apache Hadoop and MongoDB
- Exploratory Data Analysis and Visualization
- Data Mining using Python
- Data Extraction for Enterprise Reporting
- Advanced Analytics
- Linear Regression
- Logistic Regression
- Big Data Model Diagnostics

6. Module# 6: Big Data Analytics & Cloud Computing

- Supervised and unsupervised learning
- Random Forest, SVM, clustering
- Dimensionality reduction
- Validation, and Evaluation of Machine Learning Methods
- Advanced Analytic Techniques and Text Mining
- Simulation of sentimental analysis
- Optimization and Causal Mechanistic Analysis
- Time Series and Forecasting
- Big Data Security
- Big Data and Apache Hadoop
- Data Science / Big Data frameworks and RDDs
- SQL and Data Frames Module

7. Module# 7: Machine Learning

DESCRIPTION

The future is driven by data, and Machine Learning (ML) makes it possible to access and analyze larger amounts of data faster than ever before. Gartner predicts that, in next 5 years, ML will penetrate even more business fields helping to increase efficiency and work security.

The fast-emerging technology of AI and ML is expected to automate up to 300 million jobs in the United States and Europe, according to investment bank Goldman Sachs, while simultaneously creating 97 million new roles that require advanced technical skills by 2026.

The course covers practical issues in Machine learning which includes programming in Python, as well as a wide range of algorithms for supervised and unsupervised learning. The course will also discuss recent applications of machine learning such as recommendation systems, email spam detection, stock market prediction and sentiment analysis to determine the sentiment or opinion of a given text. This course is designed to give you the practical experience you need to quickly apply these techniques to new problems.

TARGET AUDIENCE

The course is dedicated for individuals interested in Machine Learning who have a basic understand of probabilities, statistics and algebra and fundamental background on IT Programming with focus on python who wants to create added value to the businesses by using powerful Machine Learning tools.

TRAINING CONTENT

- Introduction to Machine Learning
- Naive Bayes classifier
- Support Vector Machine
- K-Nearest Neighbors
- Bayesian Machine Learning
- Bootstrap and Re-sampling methods
- Deep Learning and Optimization techniques
- Python programming for ML
- Supervised Learning Techniques
- Unsupervised Learning Techniques
- Reinforcement Learning Techniques
- Regression Analysis

8. Module# 8: Artificial Intelligence

DESCRIPTION

Artificial intelligence (AI) is the ability of a machine to display human-like capabilities such as reasoning, learning, planning and creativity. AI is one of the fastest-growing fields in the Computer Science industry. AI is seen as central to the digital transformation of society and it has become an EU priority.

According to the "Future of Jobs Report 2025" published by the World Economic Forum, in the next five years, technological skills are projected to grow in importance more rapidly than any other type of skills. Among these, Among these, AI and Big Data top the list as the fastest-growing skills. According to Forbes report (2025), AI and Machine Learning are becoming indispensable skills in the job market, with their importance growing exponentially across industries. The demand for AI-related skills is 3.5 times higher than the average job skill, reflecting the rapid integration of these technologies in various sectors.

This course provides an essential introduction to the key topics underpinning AI, including its theoretical foundations, basic architecture, modern applications, and technical implications. The course aims at introducing the concept of artificial intelligence and its different paradigms, as well as at providing a good understanding of the real-world potential and limitations of AI.
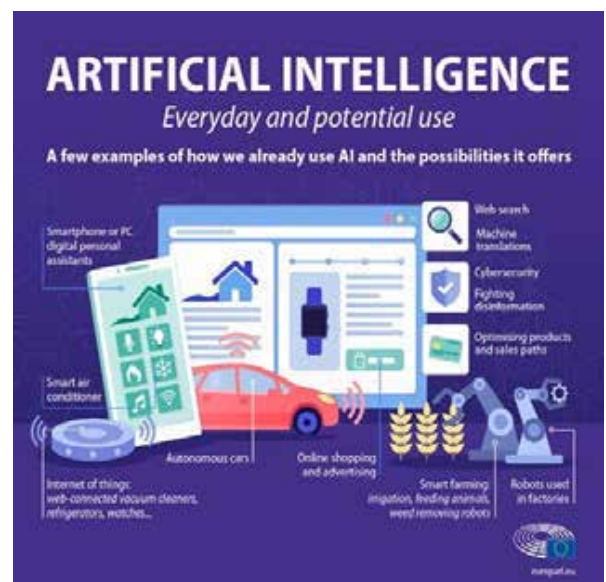
Trainees will be introduced to the core concepts of programming and the practical skills involved in producing AI-based programs to solve real-world problems, and will also explore how AI is already being used, in different domains such as in business, healthcare and finance.

TARGET AUDIENCE

The course is designed for individuals interested in Artificial Intelligence, who have basic undstanding of probabilities, statistics and algebra and good background on IT Programming with focus on Python.

TRAINING CONTENT

- Introduction to Artificial Intelligence
- Python programming for AI
- Regression Analysis
- Supervised Learning Techniques
- Unsupervised Learning Techniques
- Reinforcement Learning Techniques
- Neural Networks and Deep Learning
- Recurrent Neural Networks
- Convolutional Neural Networks
- Natural Language Processing (NLP) and Speech
- Deep Learning for NLP
- Speech recognition with Hidden Markov model (HMM) and Deep Neural Networks
- Machine translation
- Knowledge Representation in Expert Systems
- Rule-based representations
- Methodologies for building Expert Systems
- Genetic Algorithms (GA)
- Genetic Operators for reproduction, mutation and selection
- Multi-objective optimization
- Meta-heuristic algorithms

**ICT for
KOSOVO'S
Growth**

Benefits:

Learn the most modern technologies from the best international and
Kosovo ICT trainers.

Develop and practice your digital skills to meet the needs of the
Kosovo and International markets.

Earn a certificate from "EU support for the competitiveness of Kosovo
funded ICT Sector" and

Find paid internships and jobs in IT companies, establish startups or become freelancer

BE PART
OF US

*The project is supported by the European Union Office in Kosovo, EARK, Ministry of Economy and
Kosovo IT companies. Upon completion of the training successfully, the participants will be supported
accordingly on finding paid internships and jobs in IT companies,
establish startups or become freelancers*

e.ictkosovo.eu

implemented by:
WEglobal

REA
Prishtina REA