

Academic Year 2024-25

Report on

Five Days Training Session

Type of Program	Eleven Days Technical Training on Artificial Intelligence for Youth
Title of Training Session	Artificial Intelligence for Youth
Objective of Program	<p>Objectives for learning or using Alteryx, a data analytics and visualization platform, can help ensure that students and their team make the most out of the tool. Here are some potential objectives:</p> <ol style="list-style-type: none"> 1. Objectives-: 2. 1.Students will able to understand Core AI Concepts 3. 2.Students will able to explore AI Applications in Engineering 4. 3.Students will able to develop Practical AI Skills 5. 4.Students will able to enhance Problem-Solving Abilities <p>Outcome-:By the end of the AI Workshop for Engineering Students, participants will have achieved the following outcomes:</p> <ol style="list-style-type: none"> 1. A solid understanding of core AI principles, including machine learning, neural networks, and deep learning. 2. Ability to differentiate between various AI techniques and their applications. 3.Hands-on experience with AI tools and frameworks 4.Insights into how AI is transforming various engineering domains such as robotics, automation, and Predictive maintenance.
Po Attended:	PO1, PO2, PO6, PO9
Module of Training & Its Content	<p>Module 1: Introduction to Process Mining</p> <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> ○ What is Process Mining? ○ Overview of the Celonis Execution Management System (EMS) ○ Importance of Process Mining in Organizations ○ Key Concepts: Event Logs, Process Models, Variants ○ Real-World Use Cases and Industry Applications • Objective: Provide a foundational understanding of process mining, its relevance, and key terminology. <p>Module 2: Getting Started with Celonis</p> <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> ○ Introduction to the Celonis Platform ○ Navigating the User Interface and Dashboard ○ Understanding the Celonis Data Model ○ Overview of Key Features: Process Discovery, Process Analytics, Action Engine ○ Basic Configuration and Setup

- **Objective:** Familiarize students with the Celonis platform interface, core features, and data models.

Module 3: Data Integration and Preparation

- **Content:**
 - Types of Data Used in Process Mining
 - Connecting Data Sources (e.g., ERP, CRM systems)
 - Data Extraction, Transformation, and Loading (ETL)
 - Data Quality and Cleaning Techniques
 - Mapping and Preparing Data for Analysis
- **Objective:** Teach students how to import, clean, and prepare data for use in the Celonis platform.

Module 4: Process Discovery and Analysis

- **Content:**
 - Understanding Process Discovery
 - Creating and Interpreting Process Models
 - Identifying Process Variants and Deviations
 - Root Cause Analysis and Performance Metrics
 - Hands-On Exercises: Discovering and Analyzing Processes
- **Objective:** Enable students to discover and analyze business processes using the Celonis tools.

Module 5: Process Optimization Techniques

- **Content:**
 - Identifying Bottlenecks and Inefficiencies
 - Applying Lean Six Sigma and Other Methodologies
 - Implementing Process Improvements
 - Using Celonis' Machine Learning and AI Features for Optimization
 - Measuring Improvement Impact and KPIs
- **Objective:** Teach students methods to optimize business processes and measure the success of their improvements.

Module 6: Automation and Action Engine

- **Content:**
 - Introduction to Celonis Action Engine
 - Automating Tasks and Alerts
 - Creating and Managing Action Flows
 - Best Practices for Automation
 - Real-Time Monitoring and Exception Handling
- **Objective:** Show students how to use automation tools within Celonis to drive process efficiency.

Module 7: Reporting and Visualization

- **Content:**
 - Creating Dashboards and Reports in Celonis
 - Customizing Visualizations (charts, graphs, heat maps)
 - Exporting and Sharing Insights with Stakeholders
 - Case Studies on Effective Reporting
- **Objective:** Enable students to create insightful, easy-to-understand visualizations and reports for stakeholders.

Module 8: Compliance and Risk Management

- **Content:**
 - Monitoring Processes for Compliance
 - Identifying and Managing Operational Risks
 - Setting Up Alerts for Non-Compliance and Anomalies
 - Mitigation Strategies and Best Practices
- **Objective:** Teach students how to use Celonis for ensuring compliance and managing risks.

Module 9: Advanced Topics in Process Mining

- **Content:**
 - Advanced Analytics Techniques (e.g., Conformance Checking)
 - Machine Learning Applications in Celonis
 - Developing Custom Applications using Celonis API
 - Integration with Other Platforms (SAP, Salesforce, etc.)
- **Objective:** Provide deeper knowledge of advanced features and customization options available in Celonis.

Module 10: Capstone Project and Practical Application

- **Content:**
 - Working on a Real-World Case Study
 - Conducting Full Process Mining Analysis
 - Presenting Findings and Recommendations
 - Peer Review and Feedback Sessions
- **Objective:** Allow students to apply what they have learned in a comprehensive project simulating a real-world scenario.

Module 11: Exam and Certification Preparation

- **Content:**
 - Review of Key Concepts and Tools
 - Practice Tests and Quizzes
 - Tips for Certification Exams
 - Understanding Different Celonis Certifications (e.g., Analyst, Data Engineer, etc.)
- **Objective:** Prepare students for Celonis certification exams to validate their skills and knowledge.

Module 12: Future Trends and Opportunities in Process Mining

- **Content:**
 - Emerging Trends in Process Mining and Execution Management
 - Career Opportunities in Process Mining
 - Networking and Professional Development Tips
- **Objective:** Provide insights into future developments in the field and career opportunities.

Additional Resources:

- **Self-Paced Learning Materials:** Videos, tutorials, and e-learning content.
- **Interactive Exercises:** Hands-on labs and practice scenarios.
- **Community and Support:** Access to forums, webinars, and expert sessions.

These modules are designed to give students a comprehensive understanding of Celonis and process mining, from basic concepts to advanced applications, along with practical, hands-on experience.

You said:

What may be learning Module of Artificial intelligence

ChatGPT said:

ChatGPT

A learning module for Artificial Intelligence (AI) can cover a broad range of topics, from foundational concepts to advanced techniques. The curriculum should be structured to gradually build knowledge and skills, allowing students to progress from basic understanding to the application of complex AI algorithms and models.

Here is a suggested outline for an AI learning module:

Module 1: Introduction to Artificial Intelligence

- **Content:**
 - What is Artificial Intelligence?
 - History and Evolution of AI
 - AI vs. Machine Learning vs. Deep Learning
 - Key Concepts: Agents, Environments, and Actions
 - Applications of AI in Various Industries
- **Objective:** Provide a foundational understanding of AI, its evolution, and its applications.

Module 2: Mathematics and Statistics for AI

- **Content:**
 - Linear Algebra: Vectors, Matrices, and Tensors
 - Calculus: Derivatives and Integrals in AI
 - Probability and Statistics: Distributions, Bayes' Theorem
 - Optimization Techniques: Gradient Descent, Convex Optimization
- **Objective:** Build the mathematical and statistical foundation necessary for understanding AI algorithms.

Module 3: Machine Learning Basics

- **Content:**
 - What is Machine Learning? Types of Machine Learning (Supervised, Unsupervised, Reinforcement Learning)
 - Key Algorithms: Linear Regression, Logistic Regression, Decision Trees, k-Nearest Neighbors (k-NN)
 - Model Evaluation Metrics: Accuracy, Precision, Recall, F1-Score
 - Hands-On Exercises: Implementing Basic ML Algorithms
- **Objective:** Introduce the core concepts and algorithms of machine learning and their applications.

Module 4: Deep Learning Fundamentals

- **Content:**
 - Introduction to Neural Networks: Perceptrons, Activation Functions, Feedforward Networks
 - Deep Learning Architectures: Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Long Short-Term Memory (LSTM)
 - Training Deep Networks: Backpropagation, Gradient Descent, Overfitting and Regularization
 - Hands-On Exercises: Building and Training Neural Networks

	<ul style="list-style-type: none"> • Objective: Provide a comprehensive understanding of deep learning and neural networks, along with practical experience. <p>Module 5: Natural Language Processing (NLP)</p> <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> ○ Introduction to NLP: Text Pre-processing, Tokenization, Stop words, Stemming, and Lemmatization ○ NLP Techniques: Bag-of-Words, TF-IDF, Word Embedding's (Word2Vec, GloVe) ○ Advanced NLP Models: Transformers, BERT, GPT ○ Applications: Sentiment Analysis, Text Summarization, Chabot's • Objective: Equip students with the knowledge to handle and analyse text data using AI. <p>Module 6: Advanced AI Topics</p> <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> ○ Generative Models: Variational Auto encoders (VAEs), Generative Adversarial Networks (GANs) ○ Advanced Neural Networks: Capsule Networks, Graph Neural Networks (GNNs) ○ AI in IoT (Internet of Things) and Edge Computing ○ Quantum Machine Learning • Objective: Explore advanced topics in AI to prepare students for cutting-edge research and applications. <p>Module 7: AI Tools and Libraries</p> <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> ○ Introduction to AI Development Tools: Python, Jupyter Notebooks ○ Key Libraries: Tensor Flow, PyTorch, Keras, Scikit-Learn, OpenCV, Hugging Face ○ Hands-On Exercises: Implementing AI Models Using Different Libraries • Objective: Familiarize students with popular tools and libraries for AI development.
Target Group	TECO A & B
Number of Students Attended Session	32
Date & Duration of Training	18/06/2024 to 29/06/2024 Session Length: Two hours per day.
Name of Expert	Mrs. Swati Khokale
Details of Expert	Asst. Prof. GCOERC, Nashik
Brief about the Training Session	By the end of this training, participants will be proficient in using Alteryx for data analytics, capable of automating complex workflows, and prepared to integrate Alteryx with other data tools, ultimately driving more efficient and insightful decision-making processes in their organizations. Training Conducted at LCS hall Room No. 312, Third Floor, and Computer Engineering Department. Time: 10.00 am to 12.30 pm
Training Coordinator Name & Sign	Mr. S. A. Gade

Head of Department Name & Sign	Mr. S. G. Shukla
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Enclosed: -

1. Photos
2. Attendance
3. Students Feedback in ERP

***NOTE: - The feedback should be submitted by the Trainer within 2 days of the training session.**

Program Outcomes (PO's attained): -

Sr. No.	PO No.	PO attained	% attained
1	PO1	Apply the knowledge of mathematics, science, Engineering fundamentals, and an Engineering specialization to the solution of complex Engineering problems.	3
2	PO2	Identify, formulate, review research literature and analyse complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and Engineering sciences.	3
3	PO6	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.	2
4	PO9	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	2
5		At what level Training Session helped in analysing the problem?	
6	-	At what level your doubts are resolved / answered by the expert?	
7		Quality of sessions, participation and interaction	
8	-	How would you rate the overall session?	
9		Did you understand the necessity of the session	
10	-	Will you recommend this session to others?	YES

Remark by Institute Level Coordinator- _____

Remark by Training Head: -

Mr. Manish P. Gangawane
Institute level Training
coordinator

Mr. S. G. Shukla
Head, Computer Engg

Dr. N. G. Nikam
Principal

Round Seal

Photos