

Skill Area	Resources & Tools	Comment	Due Date
Bias and Fairness in AI	AI Fairness 360, Ethical AI frameworks	Techniques to identify and mitigate biases in AI models	July 2025
GitHub	Understanding artificial Intelligence Numerical Analysis Machine Learning KRR	Used in all the modules for doing all the data activities	Ongoing
Machine Learning	Introduction to ML	Lecture cast in Unit1	October 2024
	Exploratory Data Analysis	Practical experience through sample Jupyter Notebook file in Unit 2	November 2024
	Correlation and Regression	e-portfolio activity in Unit 3	November 2024
	Linear regression with Scikit - Learn	Practical experience sample Jupyter Notebook file in Unit 4	November 2024
	Clustering, Jaccard Coefficient Calculations	e-portfolio activity in Unit 5	December 2024
	K-Means Clustering Algorithm, Python	Development team project in Unit 6	December 2024
	ANN Architecture, Perceptron, Training an ANN, Gradient Cost Function	e-portfolio activity in Unit 7 & 8)	January 2025
	CNN Architecture	e-portfolio activity (Unit 9 & 10)	January 2025
	Model Selection and Evaluation	e-portfolio activity (Unit 11)	January 2025
	Future of ML	Lecture cast (Unit 12)	January 2025
Numerical Analysis	R and R Studio activities	Data Activity 1.2 & 1.3	August 2024
	R Commands	Data Activity (Unit 2)	August 2024
	R Data Management	Data Activity (Unit 3)	August 2024
	Probabilities	Probability Activities (Unit 4)	August 2024
	Producing Plots using R	Data activity (Unit 5)	September 2024
	Statistical Inference, Confidence Intervals and Hypothesis Testing	Statistics Quiz (Unit 6)	September 2024
	Parametric Tests	Data activity & Mathematics Test (Unit 7)	September 2024

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	Non-Parametric Tests	Data Activity (Unit 8)	September 2024
	Chi-Square Analysis	Data Activity (Unit 9)	October 2024
	Correlation	Data Activity (Unit 10)	October 2024
	Regression Analysis	Data activity (Unit 11)	October 2024
	Bayesian Data Analysis	Activities (Unit 12)	October 2024
Understanding Artificial Intelligence	Introduction of AI, Benefits and Threats to Business, Intelligent Agents, Supervised Learning	Unit 1- 4 Watching videos	July 2024
	Learning System, Machine Learning and Deep Learning, WEKA	Unit 5-6 Watching tutorial, activities and videos	August 2024
	CRISP DM Methodology, WEKA for supervised & unsupervised learning, Data Mining, Future of AI	Unit 7-12 Watching tutorial, activities and videos	September 2024
Sharing / Improving Knowledge	Machine Learning - Collaborative Discussion	4 <sup>th</sup> Industrial revolution	November 2024
	Machine Learning - Collaborative Discussion	Legal Ethical views on ANN Applications	January 2025
	Machine Learning -WIKI activity	Clustering	November 2024
	Numerical Analysis – Collaborative Discussion	Application of Descriptive Statistics and Visualisation	September 2024
	Understanding Artificial Intelligence – Collaborative Discussion	Supervised & Unsupervised algorithms	June 2024
	Understanding Artificial Intelligence – Collaborative Discussion	AI in Financial Services	May 2024
Analytical thinking, Presentations Skills	Understanding Artificial Intelligence	Solution Implementation using WEKA software tool	July 2024
	Numerical Analysis – Statistical Analysis Presentation	Descriptive Statistics, Inferential Statistics, R Commands	October 2024
	Machine Learning – Neural Network Models for Object Recognition	Neural Network Models, activation function, Loss function.	January 2025

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Reinforcement Learning	Q-learning, Deep Q Networks, OpenAI Gym	Hands-on projects and simulations	April 2025
Presentation on AI Ethics	Presentation/ workshop on AI Ethics at workplace		February 2025
R Studio	Importing the JIRA data in CSV or Excel format in R for generating graphs and charts at workplace		Ongoing since August 2024
Data Preparation Techniques	Practice the techniques in the at workplace		Ongoing
Building AI Professional network	Meetups, Conferences, LinkedIn		Ongoing
Transfer Learning	Pretrained models (e.g., ResNet, BERT)	Implement transfer learning on real-world datasets	June 2025