

Detailed Schedule of Bootcamp on Artificial Intelligence



Day	Module	Theory/ Lab	Details	Hours
Day-I (23-09-2024)	Introduction to AI & Python Basics	-	Induction Programme	11:00AM -10:30AM
		Theory	Introduction to AI Current Trends in AI Applications of AI	10:30AM -12:00PM
		Theory	Python Basics & Data Preprocessing, Python Basics (w.r.t AI), Git basics	12:00AM-1:00PM
	Lunch Break			1:00PM-2:00PM
	Introduction to AI & Python Basics	Lab/ Hands-on	Hands-on with Python basics (syntax, data types, control structures) Setting up Git and version control basics Introduction to data preprocessing techniques (handling missing data, normalization, etc.)	2:00PM-6:00PM

Day	Module	Theory/ Lab	Details	Hours
Day-II (24-09-2024)	Data Visualization & Machine Learning	Theory	Data Visualization Importance and methods of data visualization	9:00AM - 10:00AM
		Lab/ Hands-on	Hands-on with Python libraries like Matplotlib and Seaborn	10:00AM -11:00 AM
		Theory	Introduction to Machine Learning Types of Machine Learning (Supervised, Unsupervised, Reinforcement)	11:00AM - 1:00PM
	Lunch Break			1:00PM - 2:00PM
	Data Visualization & Machine Learning	Theory	Evaluation Metrics (accuracy, precision, recall, F1-score)	2:00PM - 3:00PM
		Lab/ Hands-on	Implementing basic machine learning models (Linear Regression, Decision Trees) Evaluating models using various metrics	3:00PM - 5:00PM

Day	Module	Theory/ Lab	Details	Hours
Day-III (25-09-2024)	Deep Learning	Theory	Deep Learning Introduction to Deep Learning Types of Deep Learning (CNN, RNN, GANs) Introduction to Hyperparameter Tuning	9:00AM - 1:00PM
	Lunch Break			1:00PM - 2:00PM
	Deep Learning	Lab/ Hands-on	Building simple deep learning models using TensorFlow/Keras Introduction to hyperparameter tuning with practical examples Overview and hands-on with Explainable AI tools	2:00PM - 5:00PM

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Day	Module	Theory/ Lab	Details	Hours
Day-IV (26-09-2024)	Computer Vision & NLP	Theory	Computer Vision Introduction to Image Processing with OpenCV Introduction to Video Processing with OpenCV	9:00AM - 11:00AM
		Lab/ Hands-on	Hands-on with image processing (filters, transformations)	11:00AM - 1:00PM
	Lunch Break			1:00PM - 2:00PM
	Computer Vision & NLP	Lab/ Hands-on	Introduction to object detection and recognition	2:00PM - 3:00PM
		Theory	Natural Language Processing Introduction to NLP	3:00PM - 4:00PM
		Lab/ Hands-on	Text preprocessing (tokenization, stemming, lemmatization)	4:00PM - 4:30PM
	Final Lab Assessment/Exam			4:30PM - 5:30PM

Day	Module	Theory/ Lab	Details	Hours
Day-V (27-09-2024)	NLP Continuation & Ethics in AI	Theory	Introduction to Generative AI	9:00AM - 10:00AM
		Lab/ Hands-on	Hands-on with basic NLP tasks (sentiment analysis, text classification)	10:00AM - 1:00PM
	Lunch Break			1:00PM - 2:00PM
	NLP Continuation & Ethics in AI	Theory	Ethics in AI Introduction to Ethical AI Introduction to Explainable AI Introduction to Responsible AI	2:00PM - 3:30PM
	Final Theory MCQ Exam			3:30PM - 5:00PM