ARTIFICIAL
INTELLIGENCE

PROFICIENCY IN ARTIFICIAL INTELLIGENCE BY ROLE

- Data Analyst
- Data Scientist
- Nlp Engineer
- Computer Vision Specilist
- Generative Artificial Intelligence
  LLMS
  ChatGPT
- MLOps Engnieer

Profiles

Sundeep Pidugu

Cybersecurity Grad Student at UNCC | Full Stack Developer | Open Source Enthusiast | Python | JavaScript

Suhas Maddali

Data Scientist @ NVIDIA, Generative AI Practitioner

Venkatesh Dhande

Detail-oriented Data Scientist/ Machine Learning Engineer

Kamakshigari Suresh

Data Scientist @ NVIDIA, Generative AI Practitioner

Offered Programs

Training (Offline/Online)

Any Graduate
By Realtime Practitioners
Live Project Resume
Preparation Course
Completion Certificate
1 To 1.5 Hr Per A Day
Offline / Online
Backup Videos

(JOIP) Intensive

Any Graduate
By Realtime Practitioners
Weekly Mock Interviews
Resume Preparation
Up to 3 Live Projects
4-6Hrs Daily Training
Offline / Online
Training Completion Certificate
Backup videos
Placement Assistance for 12months

(JOIP) Internship

Any Graduate
Must Attend Mock Test
By Realtime Practitioners
3hrs.- Internship/3hrs.-training
Live Project Work Assign By It Staff
Preferred Offline / Online
Internship Completion Certificate
6-8hrs Daily
Backup Videos
Placement Assistance For 12months

Artificial Intelligence

AI, ML and Deep Learning Constitute 60% of the Demand

Experience is losing its premium. With traditional IT job roles vanishing, Techies are turning to short-term Deep-learning courses to stay in the race.

INTERMEDIATE
Data Scientist
$110k Median Base Salary

BASIC
Data Analyst
$106k medianbase salary
4.3/5.0 level of job satisfaction

EXPERT
Gen AI Engineer
2000 openings
$112k median base salary
4.1/5.0 level of job satisfaction

Top 10 Use Cases for Data Science & Machine Learning

Healthcare: Patient Diagnosis	Finance: Fraud Detection	Manufacturing: Anomaly Detection	Retail: Inventory Optimization
Retail: Inventory Optimization	Transportation: Demand Forecasting	Network: Intrusion Detection	E-Commerce: Recommender Systems
Object Detection Computer Vision Project	Media: Interaction & Speed	Education: Research Insight	ChatGPT API Recommendation Custom Chatbots

Course Curriculum Advanced Course In **Artificial Intelligence**

Course Duration 4 Months	Session Hours 240 Hrs	Case Studies & Projects

A: Artificial Intelligence Advanced Topics

Module I: Introduction

• Introduction to Jupyter Notebook
• Getting Started with Data Science
• Unix Introduction

Module II: Python

• Python Basics
• Python Introduction
• Python Data Structure: Lists and Arrays
• Python: Conditions and Branching
• Python: Functions and Methods
• Python: Objects and Classes
• Practice Questions in Python
• Introduction to NumPy
• Linear Algebra in NumPy
• Seaborn, Matplotlib
• Project 1: Satellite Image Data Analysis using NumPy
• Introduction to Pandas

Module III: Probability & Statistics

• Introduction to Probability
• Probability Distributions
• Describing Distributions
• Probability Distribution with Multiple Variables
• Population and Sample
• Point Estimate
• Confidence Interval
• Hypothesis Testing
• A/B Testing
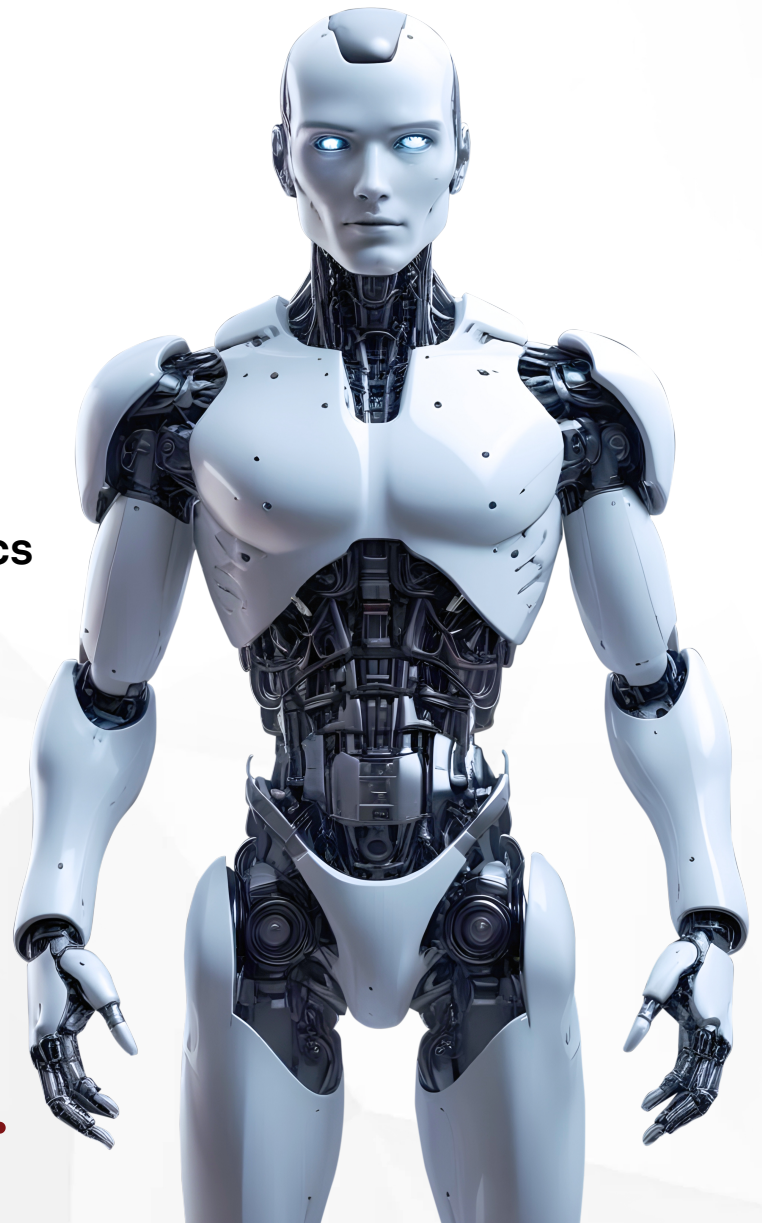
Module IV: Calculus

- Derivatives
- Optimization
- Gradients
- Gradient Decent
- Optimization in Neural Networks
- Newton Methods

Module V: Linear Algebra

- System of Linear Equations
- Elimination Method
- Row and Row Reduced Echelon form
- Vector Algebra
- Linear Transformation
- Determinants
- Eigen Values of Eigen Vectors

Module VI
Data Structurealgorithms

- Array
- String
- Linked List
- Searching Algorithm
- Sorting Algorithm
- Divide and Conquer Acqu
- Stack
- Queue
- Tree Data Structures
- Graph Data Structures
- Dynamic Program

Module VII
Data Science & Methodology

- Data Acquisition
- Data Wrangling
- Data Statistical Analysis, Grouping And Correlation
- Model Development
- Model Evaluation And Refinement
- Getting Started In Scikit-learn With The Famous Iris Dataset
- Training A Machine Learning Model With Scikit-learn
- Comparing Machine Learning Models In Scikit-learn
- Data Science Pipeline: Pandas, Seaborn, And Scikit-learn
- Cross-validation For Parameter Tuning, Model Selection, And Feature Selection
- Efficiently Searching For Optimal Tuning Parameters
- Evaluating A Classification Model: Confusion Matrix And Roc

Module IX: Power - BI

- Introduction To Power-bi
- Data Extraction Process
- Data Transformations
- Data Modeling And Dax
- Data Visualization With Analytics
- Power-bi, Q&A & Data Insights

Module X: Machine Learning

- Simple Linear Regression
- Multiple Linear Regression
- Non-linear Regression
- Regression Methods
- Ridge Regression And Lasso Regression
- Linear Regression And Decision Tree Regression
- Random Forest Regression
- Logistic Regression
- support vector regression

- Decision Tree Classification
- Random Forest Classification
- Boosting Algorithms
- Bagging
- K- Nearest Neighbours Classification
- Naive Bayes Classification
- Support Vector Classification
- K-means Clustering
- Hierarchical Clustering
- K-means And Hierarchical Clustering On The Same Dataset
- Density-based Spatial Clustering Of Applications With Noise (BD-Scan)
- Principal Component Analysis (Pca)
- Applying Principal Component Analysis On Handwritten Digits Dataset
- Market Basket Analysis

Module XI: Machine Learning

- Evaluate The Speed, Runtime And Memory Dependencies Of Algorithmic Models
- How To Use Coding Tools
- Create, Review And Execute Unit Test Cases
- Measure And Optimize Performance Of Algorithm
- Deployment Of The Models

Module A : SQL: Database Query Processing

• Rdbms Principals
• Install A Db Engine
• Sql Syntax And Data Types
• Operators, Expressions, Comments
• Data Definition Language (DDL)
• Data Manipulation Language (DML)
• Grant And Revoke
• Sql Functions (Sum, Count, Avg Etc)
• Joins (Self, Left, Right, Full Outer)
• Queries And Sub Queries
• Sql Clauses
• Sql Window Functions
• Sql Real Time Examples
• Sql Live Practice Session

B. Deep Learning Topics/AI (Artificial Intelligence)

• Part 1: Introduction
• L01: Introduction To Deep Learning
• L02: The Brief History Of Deep Learning
• L03: Single-layer Neural Networks: The Perceptron Algorithm
• Part 2: Introduction To Neural Networks
• L08: Multinomial Logistic Regression / Softmax Regression
• L09: Multilayer Perceptrons And Backpropration
• L10: Regularization To Avoid Overfitting
• L11: Input Normalization And Weight Initialization
• L12: Learning Rates And Advanced Optimization Algorithms
• Part 3: Deep Learning For NLP And Language Modeling
• Part 4: Deep Learning For Computer Vision And Language Modeling

C. Generative AI & Prompt Engineering with ChatGPT-4

• Introduction To Foundation Models
• Architecture Of Gpt-X Version
• Transformers Architecture In Detail Prompt Engineering
• Open Source (LLM'S)
• Fine - Tuning Open - AI Models
• Text, Image, Audio Processing Using Gen - AI

Tools

- ChatGPT
- Llama 2
- PALM 2
- Mid Journey Images, DALL - E3
- Mistral - 7B
- Azure open AI
- Gemini AI
- Project: Chatbots Specific to Domain

Llm Use Cases:

- Train your own LLM from Scratch like GPT-3.5
- Develop your own ChatGPT from Scratch
- Develop your own LLM application using Prompt Engineering RAG
- Stable Diffusion Models

MLOps:

- Intro to MLOps
- Experiment Tracking in MLOps
- Orchestration
- Deployment
- Monitoring
- Best Practices
- Project

Communication Skills

| Roots of Communication	LSRW	Mastering Helping Verb And Main Verb
	7 Cs of Communication	
Roots of Grammar	Parts of Speech	
	Sentence Structure Development	
	Tense Logic	
	Worksheet Sessions	
Speech Intelligence	Vocabulary Delopment	
	Usage of words	
	Group Discussions	
	JAMS	
	Debates	
	Public Speaking	
Personality Development	Imagination and Innovation Training	
	Centralized Brain Storming	
	Problem Solving Skill s	
	Desiion Making	
Mangement Skills	Time Management	
	Team Building	
	Task Management	
	Leadership Skills	
Interview Skills	Employbility	
	Think like a Professional	
	Clearing HR Rounds.	
	Salary Negotiation	
	Bond Negotiation	
Presentation Skills	Research Skills	Dream Company Reading Skillls Comprehension Skills
	Public Speaking	
	Visualization	
	White Board Presentation	
	Mastering Powerpoint	
	Content Creation	
Personality Development	Mind Mapping	
	Role plays	
	Mock Interview on the Hot Seat	
	Listening Skills	
	Critical Thinking	
	Thought Analysis	
	SWOT Analysis	

Aptitude & Reasoning

Quantitative

- Basic Maths
- Algebra
- Percentages
- Profit And Loss
- Discounts
- Averages
- Time And Work
- Chain Rule
- Pipes And Cisterns
- Ratios
- Proportions
- Partnerships
- Time And Distance
- Trains
- Boats And Streams
- Simple Interest
- Compound Interest
- Data Interpretation
- Bar Charts
- Line Charts
- Pie Charts
- Table Charts

Reasoning

- Directions
- Letter Series
- Number Series
- Coding - Decoding
- Blood Relations
- Statement and Assumption
- Analogy
- Odd Man Out Series
- Venn Diagrams
- Mirror Images
- Water Images
- Arranging in Order
- Paper Folding / Cutting
- Grouping
- Counting the figures
- Clocks
- Calendars
- Seating Arrangements
- Syllogism
- Puzzles
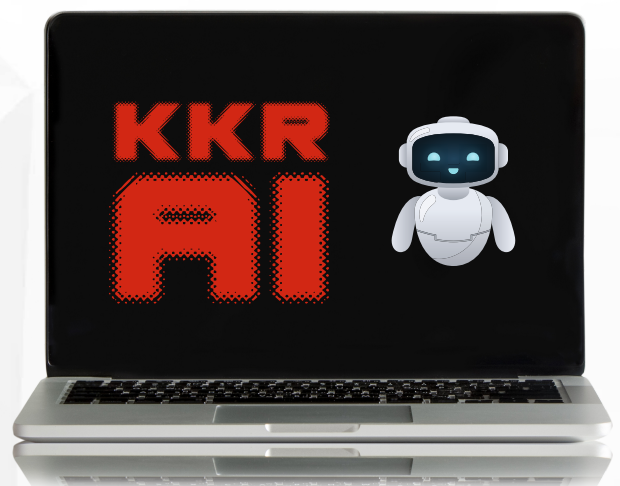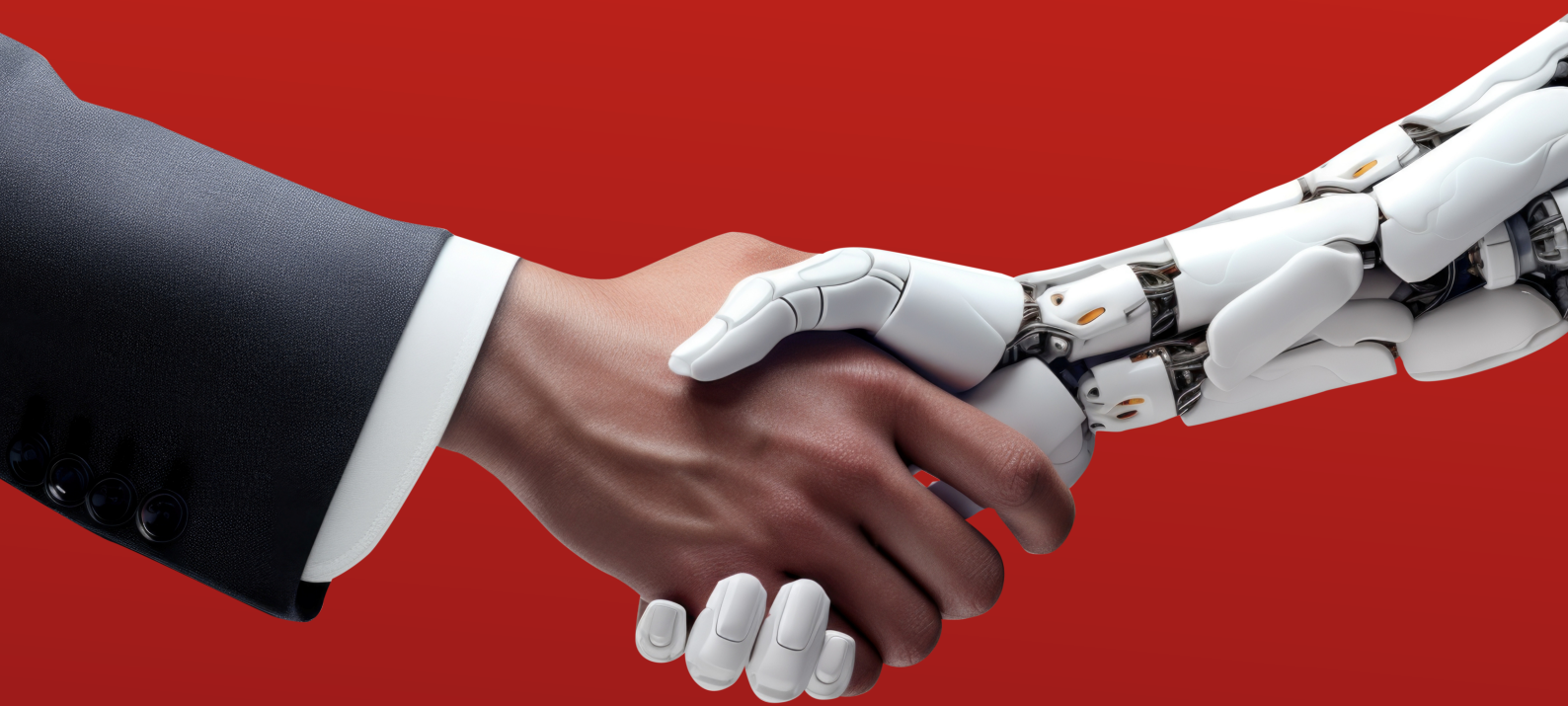
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