GLOW LOGICS
SOLUTIONS

DATA SCIENCE
BROCHURE

MSME
MICRO, SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम
OUR STRENGTH • हमारी शक्ति
Ministry of MSME, Govt. of India

ISO 9001 2015 CERTIFIED

TechFest
IIT BOMBAY

About Glowlogics

Glowlogics is a **government-verified MSME and Startup India-recognized company offering ISO-certified internships. In partnership with Techfest, IIT Bombay**, & **E-cell Hydrabad** we are committed to fostering innovation and skill development, providing practical, industry-relevant expectation

Program Overview

Master the essentials of data analysis, machine learning, and visualization through hands-on projects and expert guidance ideal for anyone aiming to thrive in today's data-driven world.

Why Choose Our DataScience Program?

- Data Science is at the heart of decision-making across industries. From business analysis to cutting-edge AI models, Data Science professionals are in high demand. Here's why this field is for you:
- High Demand: Every industry relies on data to drive innovation.
- Lucrative Career: Data Science roles offer some of the best salaries in tech.
- Versatile Skillset: Applicable in tech, healthcare, finance, and more.

Curriculum Overview

🔷 Module 1: Python for Data Science

- Introduction to Python, Jupyter Notebooks
- Data types, variables, operators
- Control structures (if, for, while)
- Functions, lambda expressions
- Data structures: Lists, tuples, sets, dictionaries
- Libraries: NumPy & Pandas (basic data manipulation)

🔷 Module 2: Statistics & Probability

- Descriptive statistics: Mean, median, mode, variance, standard deviation
- Probability basics: Independent vs. dependent events
- Normal distribution, skewness, and kurtosis
- Hypothesis testing, p-values, confidence intervals

🔷 Module 3: Data Visualization

- Using Matplotlib: Line plots, bar charts, histograms
- Using Seaborn: Heatmaps, pair plots, violin plots
- Plot styling and customization
- Telling stories with data visuals

🔷 Module 4: Exploratory Data Analysis (EDA)

- Data cleaning: Handling nulls, duplicates, outliers
- Feature engineering basics
- Correlation analysis
- Case study: EDA on a real dataset (Titanic, Iris, or custom)

🔷 Module 5: SQL & Data Handling

- SQL basics: SELECT, WHERE, GROUP BY, JOIN
- Querying datasets from SQLite/MySQL
- Integration of SQL with Python via `sqlite3` or `SQLAlchemy`
- Hands-on querying real-world datasets

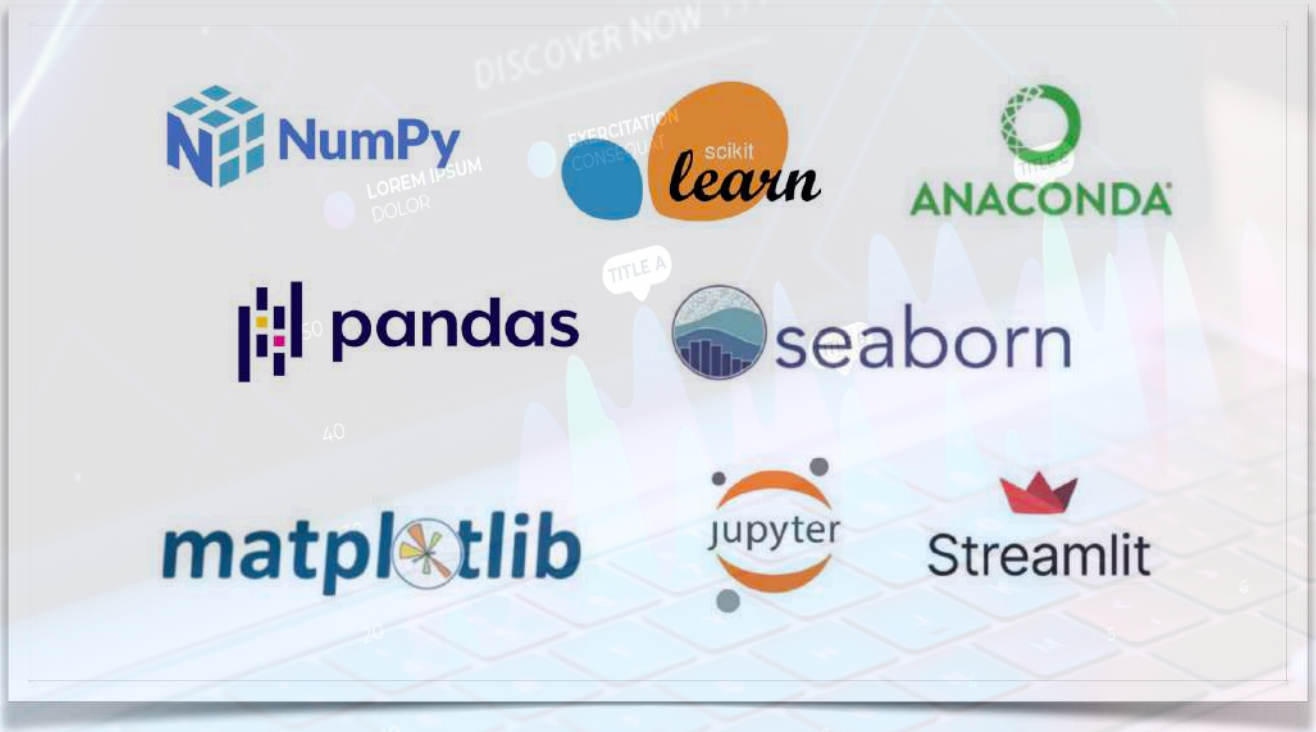
🔷 Module 6: Machine Learning Algorithms

- ML pipeline overview: Supervised vs Unsupervised
- Linear & Logistic Regression
- Decision Trees & Random Forest
- K-Means Clustering
- Model evaluation: Confusion matrix, accuracy, recall, precision, F1-score

🔷 Module 7: Deep Learning Fundamentals

- Introduction to Neural Networks
- TensorFlow/Keras basics
- Building a simple neural network (image or text dataset)
- Overfitting & regularization concepts

Tools,Languages,Platforms



Sample Projects

These are sample projects only. Unique capstone projects will be discussed in the live class

1. Exploratory Data Analysis (EDA) on Titanic Dataset

- Skills Involved: Data cleaning, visualization, statistical analysis.
- Description: Students can analyze the Titanic dataset to explore patterns in survival rates based on factors like gender, age, passenger class, and fare. They'll create visualizations like bar charts, heatmaps, and box plots to summarize findings.
- Dataset: Titanic Dataset (available on Kaggle).

2. Customer Segmentation Using K-Means Clustering

- Skills Involved: Unsupervised learning, feature scaling, clustering.
- Description: Use customer data (such as annual income, spending score, age) to segment customers into different groups. The project will involve preprocessing the data and applying K-means clustering to identify customer segments.
- Dataset: Mall Customer Dataset (Kaggle).

3. Predicting House Prices

- Skills Involved: Regression, feature selection, data preprocessing.
- Description: Students will predict house prices using data on house features like the number of bedrooms, square footage, location, etc. They'll train a linear regression or a decision tree model and evaluate its accuracy.
- Dataset: Ames Housing Dataset or Boston Housing Dataset (Kaggle).

4. Sentiment Analysis on Twitter Data

- Skills Involved: Natural Language Processing (NLP), text preprocessing, classification.
- Description: Using a dataset of tweets, students can build a sentiment analysis model to classify tweets as positive, negative, or neutral. They'll apply techniques like tokenization, stopword removal, and vectorization (e.g., TF-IDF) and use models like Naive Bayes or SVM.
- Dataset: Twitter Sentiment Analysis Dataset (Kaggle or Twitter API).

5. Fraud Detection with Credit Card Data

- Skills Involved: Classification, imbalanced data handling, evaluation metrics.
- Description: Using a credit card transactions dataset, students can build a model to detect fraudulent transactions. Techniques for handling imbalanced data, such as SMOTE (Synthetic Minority Over-sampling Technique), can be applied.
- Dataset: Credit Card Fraud Detection Dataset (Kaggle).

Career Opportunities

By completing our Data Science Program, you'll be ready to take on key roles in the industry, including:

- Data Scientist
- Machine Learning Engineer
- Data Analyst
- Business Intelligence Analyst
- Data Engineer

Hiring Companies:

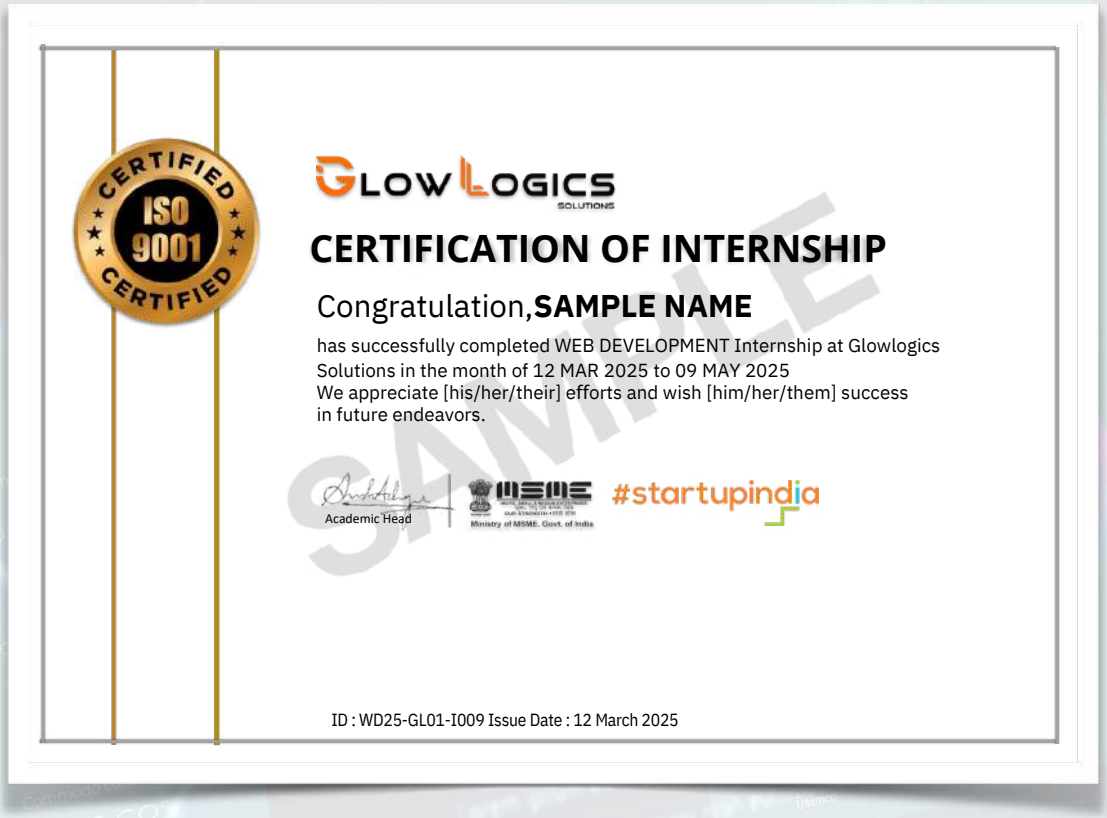
Our graduates have found opportunities at top companies like:

- Amazon
- Google
- Microsoft
- Deloitte
- Startups and Fintech Companies

🔍 **Curious to know more?**

Check out our YouTube channel for demo classes and student testimonials!

Certificates



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CERTIFICATION OF INTERNSHIP

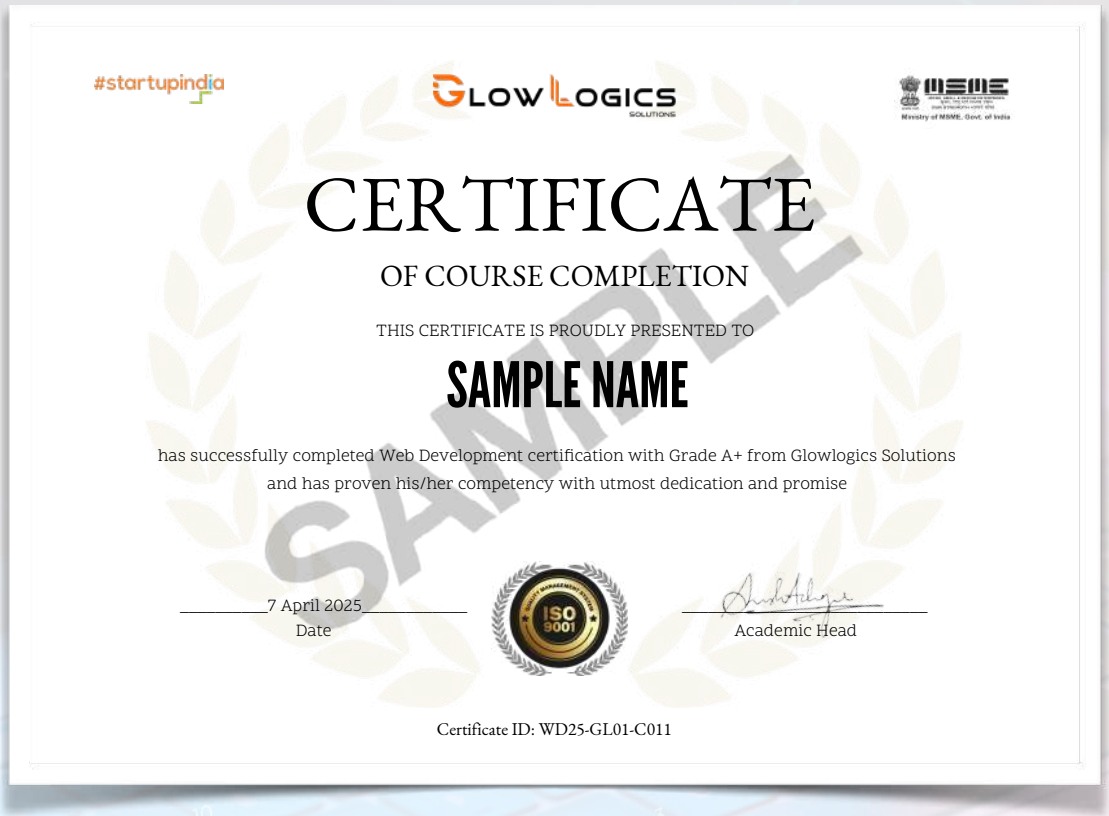
Congratulation,**SAMPLE NAME**

has successfully completed WEB DEVELOPMENT Internship at Glowlogics Solutions in the month of 12 MAR 2025 to 09 MAY 2025
We appreciate [his/her/their] efforts and wish [him/her/them] success in future endeavors.

Academic Head

#startupindia

ID : WD25-GL01-I009 Issue Date : 12 March 2025



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CERTIFICATE

OF COURSE COMPLETION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

SAMPLE NAME

has successfully completed Web Development certification with Grade A+ from Glowlogics Solutions and has proven his/her competency with utmost dedication and promise

7 April 2025
Date

Academic Head

Certificate ID: WD25-GL01-C011

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Ready to take your career to the next level?

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