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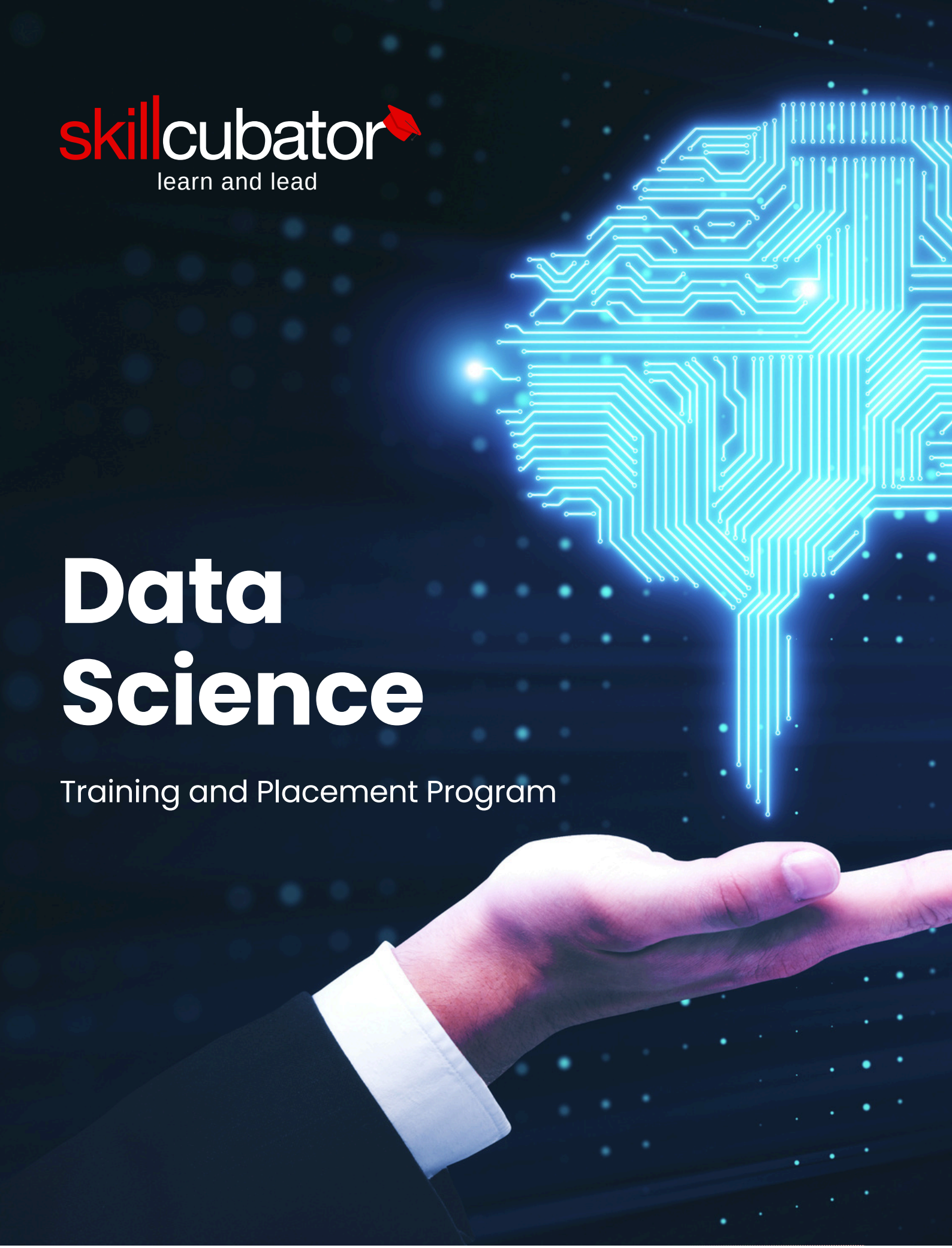

Data Science

Training and Placement Program

1-703-200-9921
skillcubator.com
info@skillcubator.com

Course Description

The Data Science Program at Skillcubator is a comprehensive training course designed to equip learners with in-demand skills in data analysis, machine learning, and artificial intelligence. It focuses on preparing learners for jobs in the data field. Through hands-on projects, real-world case studies, and industry-relevant tools such as Python, SQL, and Power BI, learners gain practical experience to solve business problems and make data-driven decisions. This program is ideal for professionals looking to transition into high-growth data science roles.

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Program Highlights

01 **Job-Ready Curriculum**

Industry-aligned, future-focused curriculum built to prepare learners for evolving job market demands.

02 **Career Guidance**

Expert counselors for personized counselling for career advancement and transition opportunities.

03 **Latest Data Science Tools**

Build hands-on expertise with leading data science tools/software, ML frameworks and AI- powered tools. Learn tools like MySQL, Jupyter, Python, Power BI, TensorFlow, Pandas, NumPy, Matplotlib and more.

04 **AI-Powered**

Leverage artificial intelligence (AI) using no-code platforms to perform data analysis.

05 **Hands-On Projects**

Build real-world skills through 10+ course-end projects.

06 **Capstone Project**

Demonstrate your skills through a capstone project for holistic learning.

07 **Lifetime Access**

Get lifetime access to recorded sessions and learning resources.

08 **Portfolio**

Create a job-ready portfolio to share it with your prospective employer.

09 **24*7 Support**

Resolve doubts in real-time.

10 **100% Live Interactive Learning**

Live online interactive sessions led by industry experts in the field of data science (PhDs, IIT/NIT/IIM alumni with 15-plus years of industry experience).

11 **Learning Aids**

Plenty of online quizzes, break-out sessions, and in-class exercises during the live sessions.

12 **Flexible Payment Plans**

Affordable and convenient payment plans available.

13 **Resume and LinkedIn**

Receive a personalized resume and LinkedIn optimization.

14 **Career Support**

Benefit from Skillcubator's career support services. Free placement and unlimited post-placement support.

Data Analyst Career Roadmap

From Beginner to $250K+ Career Path

Entry-Level Roles (0–2 Years)

$60K – $85K

Excel, SQL, Python
Data Cleaning & Visualization
Basic Statistics

Mid-Level Roles

$85K – $120K

Machine Learning
Feature Engineering
Advanced SQL & Python
Model Evaluation

Senior Roles

$120K – $160K+

Model Optimization & Deployment
Big Data Tools (Spark, Hadoop)
Cloud (AWS, Azure)
Data Strategy

Leadership Roles

$150K – $250K+

Leadership & Team Management
Data Strategy & Governance
AI/ML Innovation
Stakeholder Management

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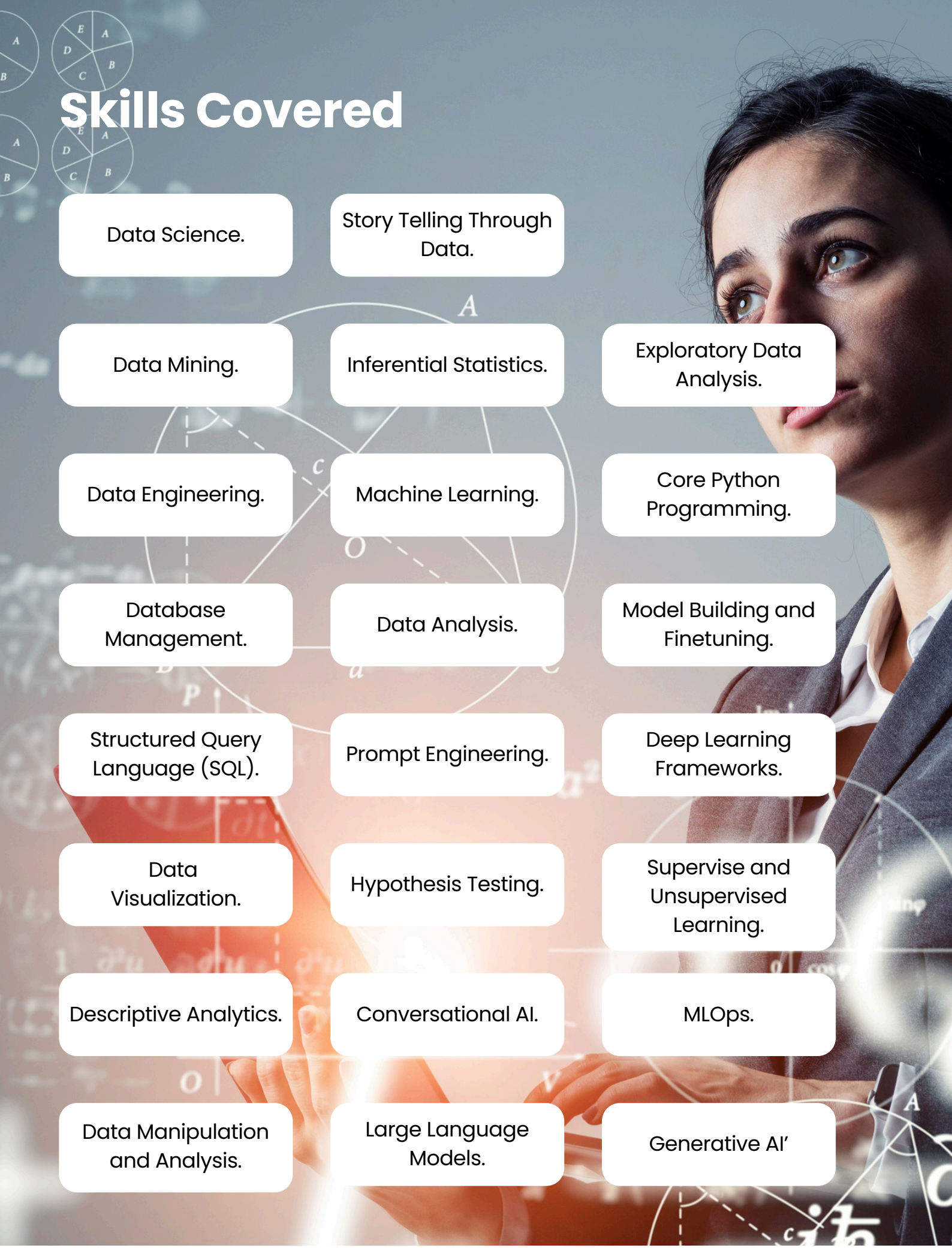
Hiring Companies

Skills Covered



- Data Science.
- Story Telling Through Data.
- Data Mining.
- Inferential Statistics.
- Exploratory Data Analysis.
- Data Engineering.
- Machine Learning.
- Core Python Programming.
- Database Management.
- Data Analysis.
- Model Building and Finetuning.
- Structured Query Language (SQL).
- Prompt Engineering.
- Deep Learning Frameworks.
- Data Visualization.
- Hypothesis Testing.
- Supervise and Unsupervised Learning.
- Descriptive Analytics.
- Conversational AI.
- MLOps.
- Data Manipulation and Analysis.
- Large Language Models.
- Generative AI'

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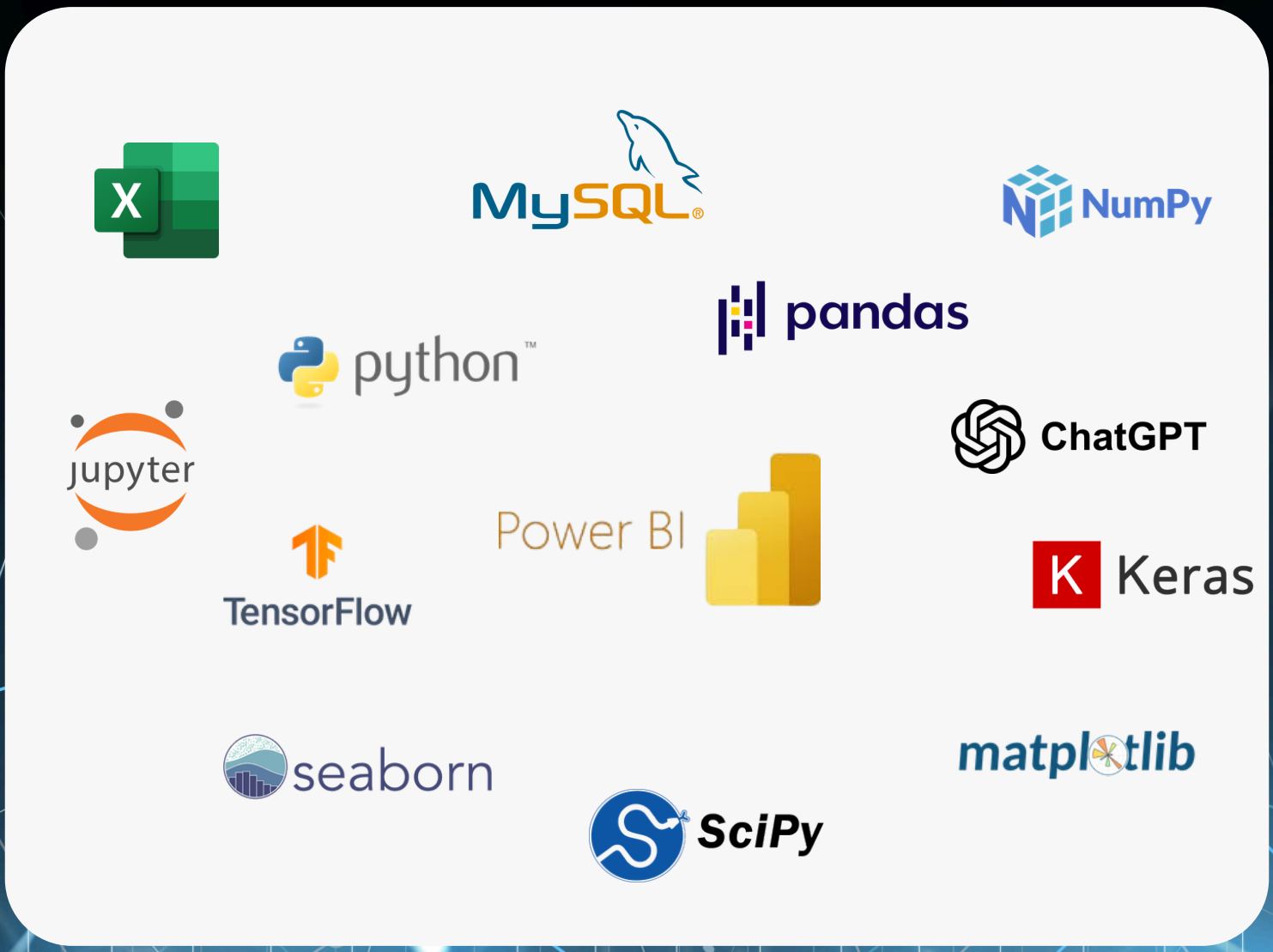
Tools You Will Master



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Metrics

50	87	25
PROFESSIONAL INSTRUCTORS	NEW COURSES EVERY YEAR	LIVE SESSIONS EVERY MONTH

Live Instructor-Led Sessions	**100% Job Placement Support**	**Global Credibility & Practical Edge**	**On-the-Project Support**

Skillcubator Edge

Career Transformation In **3 Months.**

Top-Notch Instructors With **Excellent Academics Backed** With Real-World Corporate Experience.

Small **Batch** Size.

USA & Canada Job Market Alignment.

Lifetime **Free Career Mentorship**.

We Bridge The **Experience Gap**.

Interest-Free Payment Plan Options.

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Prerequisites

- Basic computer skills.
- Logical and analytical thinking.
- Willingness to learn and practice.

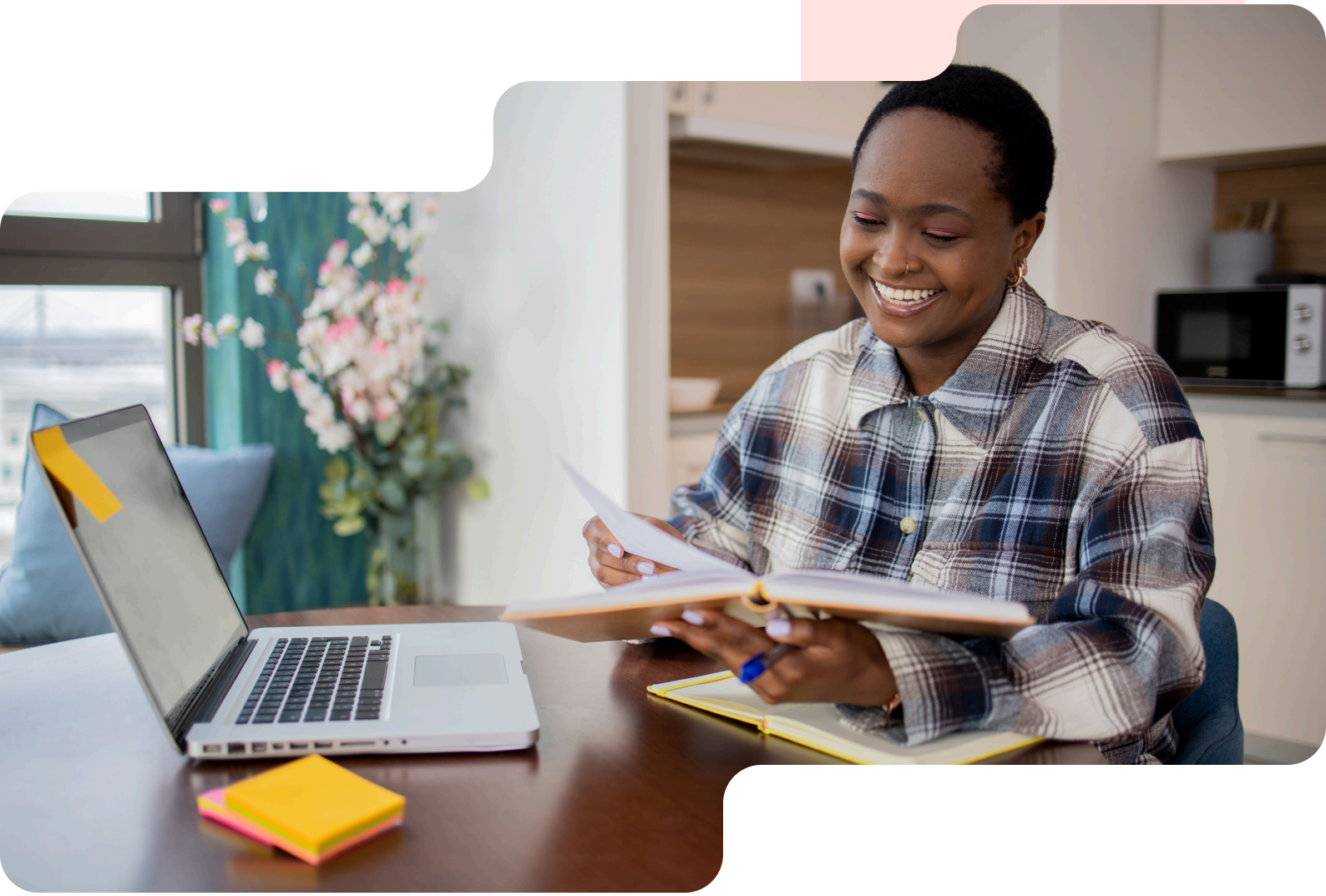
No prior technical background or coding experience needed.

Available Formats for this Course

LIVE

Live Online

Private Team Training



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Course Structure & Modules

01

Module 1

Foundations & Business Context

02

Module 2

Data Engineering & Analysis

03

Module 3

Machine Learning

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MODULE 1

FOUNDATIONS & BUSINESS CONTEXT

DATA SCIENCE & BUSINESS: THE BIG PICTURE

- What is Data Science and AI?
- Data Science roles: Analyst, Scientist, Engineer.
- Business use cases: Finance, Marketing, HR, Supply Chain.
- Data Science lifecycle: Problem → Insight → Action.
- Understanding data types: structured vs unstructured.

EXCEL & SQL FOR BUSINESS DATA

- Advanced Excel: VLOOKUP, INDEX-MATCH, Pivot Tables, Power Query.
- SQL basics: SELECT, WHERE, GROUP BY, ORDER BY, JOIN (INNER/LEFT/RIGHT).
- Database concepts: tables, primary keys, foreign keys.
- Writing business queries on real datasets.
- Connecting SQL to Excel.
- Introduction to Google BigQuery.

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FOUNDATIONS & BUSINESS CONTEXT

.... MODULE 1 CONTINUED

PYTHON PROGRAMMING FOR NON-PROGRAMMERS

- Python setup (Anaconda, Jupyter Notebook, VS Code).
- Variables, data types, operators.
- Control flow: if-else, loops.
- Functions and modules.
- Lists, dictionaries, tuples, sets.
- File handling and basic I/O.
- Exception handling basics.

DATA THINKING & BUSINESS PROBLEM FRAMING

- CRISP-DM methodology.
- How to frame a data science problem from a business requirement.
- KPI definition and success metrics.
- Data sources: internal (CRM, ERP) vs external (APIs, web).
- Ethical considerations in data science.
- Introduction to GDPR and data privacy concepts.

STATISTICS & MATHEMATICS ESSENTIALS

- Descriptive statistics: mean, median, mode, variance, std dev.
- Probability fundamentals and distributions (Normal, Binomial, Poisson).
- Hypothesis testing: t-test, chi-square, ANOVA.
- Correlation vs causation.
- Confidence intervals and p-values.
- Introduction to linear algebra (vectors, matrices) for ML context.

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MODULE 2

DATA ENGINEERING & ANALYSIS

ADVANCED PYTHON — NUMPY & PANDAS

- NumPy arrays, broadcasting, vectorized operations.
- Pandas Series and Data Frames in depth.
- Data import: CSV, Excel, JSON, APIs, Databases.
- Data cleaning: nulls, duplicates, type conversion.
- Merging, joining, reshaping data (melt, pivot).
- GroupBy, aggregations, apply/lambda.
- Time-series indexing and resampling.

EXPLORATORY DATA ANALYSIS (EDA)

- Matplotlib: figures, axes, subplots.
- Seaborn: statistical plots (heatmap, pairplot, regplot).
- Plotly: interactive charts for business dashboards.
- Choosing the right chart for the right story.
- Color theory and visual design principles.
- Geospatial visualization basics (Folium).
- Exporting publication-ready visuals.

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DATA ENGINEERING & ANALYSIS

.... MODULE 2 CONTINUED

BUSINESS INTELLIGENCE — POWER BI & TABLEAU

- Power BI: data modeling, DAX basics, report building.
- Tableau: connecting to data, creating dashboards.
- Calculated fields, parameters, filters.
- KPI cards, trend charts, geographical maps.
- Publishing and sharing dashboards.
- Connecting live data sources.
- Best practices for executive dashboards.

FEATURE ENGINEERING & DATA PREPROCESSING

- Encoding categorical variables: one-hot, label, target encoding.
- Handling class imbalance: SMOTE, oversampling.
- Scaling & normalization: MinMax, StandardScaler, RobustScaler.
- Binning, log transforms, polynomial features.
- Text feature extraction: TF-IDF basics.
- Date/time feature engineering.
- Feature selection methods: filter, wrapper, embedded.

ADVANCED SQL & DATABASE ENGINEERING

- Window functions: RANK, DENSE_RANK, ROW_NUMBER, LAG, LEAD.
- Common Table Expressions (CTEs) and recursive queries.
- Subqueries and query optimization.
- Stored procedures and views.
- Data warehousing concepts: OLAP vs OLTP, Star vs Snowflake schema.
- Introduction to NoSQL: MongoDB basics for unstructured data.
- Cloud databases: AWS RDS, Google BigQuery hands-on.

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MODULE 3

MACHINE LEARNING

MACHINE LEARNING (ML) FOUNDATIONS

- Types of ML: supervised, unsupervised, semi-supervised, reinforcement.
- Bias-variance tradeoff.
- Training, validation, test splits; cross-validation (K-Fold, Stratified).
- Overfitting, underfitting, regularization (L1/L2).
- Scikit-learn pipeline: fit, transform, predict.
- Evaluation metrics: accuracy, precision, recall, F1, ROC-AUC, RMSE, MAE.
- Grid Search & RandomizedSearchCV for hyperparameter tuning.

REGRESSION ALGORITHMS

- Linear Regression: OLS, gradient descent from scratch.
- Multiple Linear Regression and multicollinearity (VIF).
- Polynomial Regression.
- Ridge, Lasso, ElasticNet regularization.
- Decision Tree Regressor.
- Random Forest Regressor.
- Gradient Boosting for regression (XGBoost, LightGBM).

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MACHINE LEARNING

.... MODULE 3 CONTINUED

CLASSIFICATION ALGORITHMS

- Logistic Regression: odds ratio, sigmoid, interpretation.
- k-Nearest Neighbors (KNN).
- Naive Bayes (Gaussian, Multinomial).
- Support Vector Machines (SVM) with kernels.
- Decision Tree Classifier & pruning.
- Random Forest Classifier, feature importance.
- Gradient Boosting: XGBoost, LightGBM, CatBoost.

UNSUPERVISED LEARNING

- K-Means Clustering: elbow method, silhouette score.
- Hierarchical Clustering: dendrograms.
- DBSCAN for density-based clustering.
- Gaussian Mixture Models.
- Principal Component Analysis (PCA) for dimensionality reduction.
- t-SNE and UMAP for visualization.
- Association Rule Mining: Apriori, FP-Growth (market basket analysis).

ENSEMBLE METHODS & ADVANCED BOOSTING

- Bagging vs Boosting vs Stacking.
- Random Forest deep dive: feature importance, OOB error.
- AdaBoost mechanics.
- XGBoost: tree parameters, regularization, early stopping.
- LightGBM: leaf-wise growth, categorical features.
- CatBoost for business tabular data.
- Model blending and stacking ensembles.
- Handling imbalanced datasets in classification.

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MACHINE LEARNING

.... MODULE 3 CONTINUED

MODEL INTERPRETABILITY & BUSINESS COMMUNICATION

- Why interpretability matters in business.
- SHAP values: global and local explanations.
- LIME for local model explanation.
- Partial Dependence Plots (PDP) and ICE plots.
- Feature importance for tree-based models.
- Model cards and responsible AI documentation.
- Translating model outputs into business recommendations.

RECOMMENDATION SYSTEMS

- Collaborative filtering: user-based & item-based.
- Content-based filtering.
- Matrix factorization (SVD).
- Hybrid recommendation systems.
- Evaluation: RMSE, precision@k, MAP.
- Cold start problem and solutions.
- Business applications: e-commerce, streaming, cross-sell.

TIME SERIES ANALYSIS & FORECASTING

- Time series decomposition: trend, seasonality, residuals.
- Stationarity testing: ADF test.
- ARIMA and SARIMA models.
- Exponential Smoothing (Holt-Winters).
- Facebook Prophet for business forecasting.
- Machine learning for time series (XGBoost with lag features).
- Cross-validation strategies for time series.

Is this Program Right for You?

- Working professionals looking to transition into high-demand data science roles.
- Non-technical individuals who want to build a career in data without prior coding experience.
- Recent graduates or students aiming to enter data science field .
- Business Analysts, IT professionals, or Project Managers looking to upskill with advanced data-driven decision-making.
- Career switchers from domains like finance, marketing, operations etc.
- Anyone interested in AI, Machine Learning, and data-driven problem-solving.
- Entrepreneurs wanting data-driven decisions.
- Product Managers seeking data literacy.
- Data Analysts advancing to data science field.

Certificate of Completion

IIBA® Endorsed Education Provider™

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CERTIFICATE OF COMPLETION

SKILLCUBATOR TRAINING INSTITUTE HEREBY CERTIFIES THAT

John Doe

Attended Data Science training program and successfully met all the requirements established by Skillcubator Training Institute and is hereby recognized as a

'Certified Data Science Professional'

Date Issued: mm/dd/yyyy

Certificate No: _____

Issuing Authority: Skillcubator Training Institute USA

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Duration

4 Months

Core Training Hours: **100 hours**.

Fees

1500 USD

+ 5.3% Sales Tax

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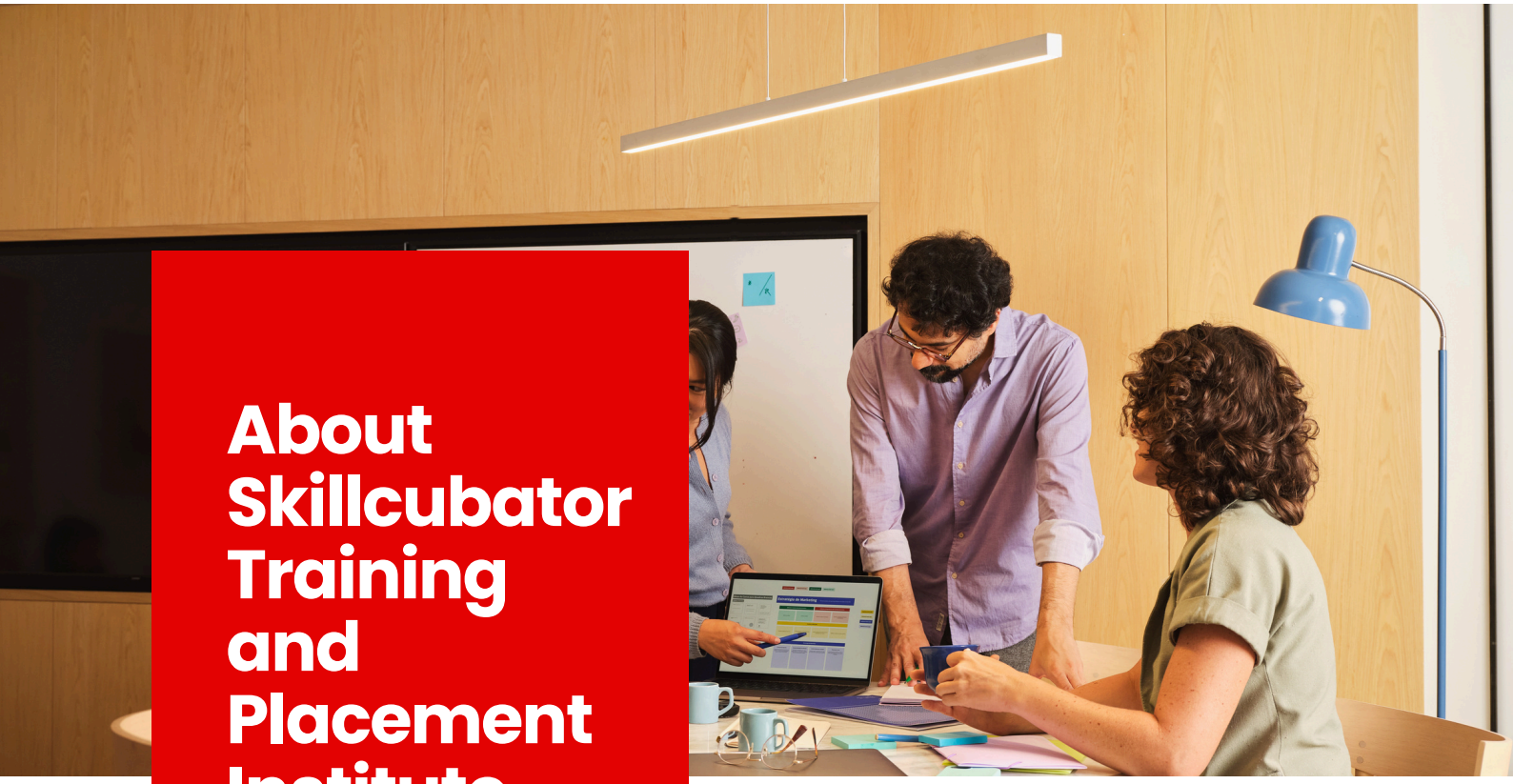
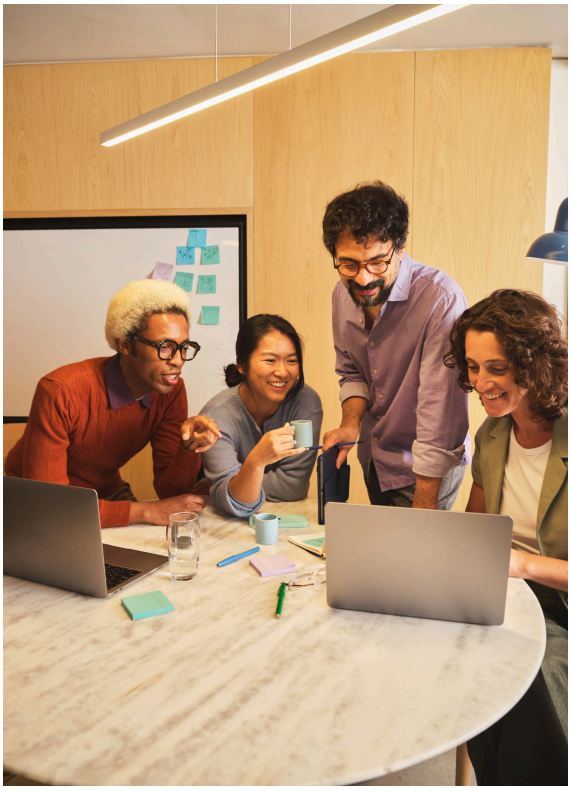


About Skillcubator Training and Placement Institute



Skillcubator is a premier training and job placement institute, based out of Washington DC metro area, USA. We offer high-quality, job-based and certification-based Information Technology (IT) training programs to any aspiring professional, looking to transform their career at any stage in their life.

Skillcubator's award-winning immersive learning model, delivered via live online training, focuses on applied learning to help an individual to successfully transition into new career paths.

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