SKILLATHON

CAREER ACCELERATOR PROGRAM

DATA SCIENCE

WEEKLY TRAINING SCHEDULE .

PLACEMENT FLOW

ENROLLMENT PROCEDURE

DATA SCIENCE CAP

This 14-week program provides our learners with an opportunity to learn and grow in the world of Analytics. Through our program,

Our learners get access to

- Unlimited Placement Opportunities
- Unlimited P/A T/A Assessments
- Unrestricted Course Access
- A gamified Learning Management System
- Online Coding Lab
- Personal Mentor support

TOOLS

Statistics, R , Tableau, Python, Sql.

TRAINING PLAN (WEEKLY)

Week 1

1. STATISTICS

- Sampling
- Frequency distribution
- Visualizing Frequency distributions
- Mean, Median, Mode
- Measures of variability
- Z-scores
- Baye's theorem
- Naive baye's algorithm
- Hypothesis testing
- Chi-squared test

2. R BASICS

- Introduction TO R.
- INTERPRETER AND SETTING UP ENVIRONMENT R STUDIO
- Working with MATRICES, VECTORS,LISTS, DATA FRAMES

3. DATA ANALYSIS WITH R

- DATA VISUALIZATION WITH R(GGPLOT2,PLOTTY)
- DATA CLEANING WITH R

Week 2

1. CLASSIFICATION WITH R

- MNIST & INTRO TO CLASSIFICATION MODEL
- CLASSIFICATION PERFORMANCE MEASURES
- Accuracy Measure using Cross-validation
- Confusion Matrix
- Precision and Recall
- ROC, ROC-AUC Curve
- MULTICLASS CLASSIFICATION
- MULTILABEL CLASSIFICATION
- MULTIOUTPUT CLASSIFICATION

2. REGRESSION WITH R

a. LINEAR REGRESSION

- GRADIENT DESCENT
- GRADIENT DESCENT
- Batch Gradient Descent
- Stochastic Gradient Descent
- POLYNOMIAL REGRESSION
- REGULARIZATION
- Ridge
- Lasso
- Elastic Net and Early Stopping

b. LOGISTIC REGRESSION

- Decision Boundaries
- Softmax Regression

Week 3

1. SUPPORT VECTOR MACHINES WITH R

- LINEAR & NON-LINEAR SVM CLASSIFIER
- KERNELS
- Polynomial Kernel
- Similarity Feature
- Gaussian RBF Kernel
- SVM REGRESSOR

2. DECISION TREES WITH R

- CART ALGORITHMS
- GINI IMPURITY AND ENTROPY
- REGULARIZATION TECHNIQUES IN DECISION TREES

3. ENSEMBLE TECHNIQUES WITH R

- VOTING TECHNIQUE
- BAGGING AND PASTING
- OUT-OF-BAG EVALUATION
- RANDOM FORESTS
- Feature Importance
- Extra Trees
- BOSTING & STACKING TECHNIQUES
- Ada Boost
- Gradient Boosting

Week 4

1. DIMENSIONALITY REDUCTION WITH R

- APPROACHES OF DIMENSIONALITY REDUCTION
- Manifold Learning
- PRINCIPAL COMPONENT ANALYSIS (PCA)
- Retaining maximum Variance
- Explained Variance Ratio
- Projecting down to d-Dimensions
- Approach to choosing the right number of dimensions
- Incremental & Randomized PCA
- Kernelized PCA
- Kernel selection & Tuning Hyperparameters for PCA
- OTHER DIMENSIONALITY REDUCTION TECHNIQUES

2. CLUSTERING WITH R

- APPROACHES OF CLUSTERING ALGORITHMS
- Connectivity-based Model
- Centroid-based Model
- Distribution-based Model
- Density-based Model
- K-MEANS CLUSTERING
- HIERARCHICAL CLUSTERING
- K-MODES CLUSTERING
- **FRAUD DETECTION & SOCIAL MEDIA RECOMDAT**[PROJECT]
- **SOCIAL MEDIA RECOMMENDATION ENGINE**[PROJECT]
- **SOM CLUSTERING** (UNSUPERVISED LEARNING)

Week 5

1. SQL FUNDAMENTALS

- INTRODUCTION TO SQL
- SUMMARY STATISTICS
- GROUP SUMMARY STATISTICS
- SUBQUERIES
- PROJECT ON FUNDAMENTALS OF SQL

2. SQL INTERMEDIATE.

- JOINING DATA IN SQL
- INTERMEDIATE JOINS IN SQL
- TABLES & NORMALIZATION
- CREATING & DESIGNING A DATABASE

3. POSTGRES SQL

- USING POSTGRES SQL
- COMMANDLINE IN POSTGRESSQL
- INTRODUCTION TO INDEXING
- INTRODUCTION TO SINGLE, MULTI INDEXING

Week 6

1. Tableau & power Bi

- Fundamentals of Visualization
- Introduction to tableau

- Exploring and Navigating Tableau
- Making Data Connections
- Essential Design Principles of Tableau
- Effective and Ineffective Visuals
- Visual Perception and Cognitive Load
- Design Best Practices and Explanatory Analysis
- Design for Understanding
- Creating Dashboards and Storytelling with Tableau
- Planning and Pre-production: Aligning your Audience, Stakeholders
- Key Metrics Indicators and Decision Triggers
- Dashboard and Storytelling with Data
- **Tell the Story of your Data**

Week 7

1. Excel

- Excel: Basics
- Performing Calculations
- Formating
- Charts
- Working with Multiple Worksheets and workbooks
- Names and Ranges.
- Summarizing Data
- Pivot Tables, Charts and Slicer
- Data Validation
- Conditional Logic

- Automating Lookups
- Formula Auditing and Protection
- Data Modelling
- Recording Macros
- Spreadsheet Design and Documentation
- Advanced Formula Techniques
- Data Cleaning and Preparation.
- Financial Functions and Working with Dates
- Advanced Lookup Functions
- Building Professional Dashboard

Week 8

1. MONGODB & AZURE DEPLOYMENT

- Flexibly Structured Data
- Working with Distinct Values and Sets
- Get Only What You Need, and Fast
- Aggregation Pipelines: Let the Server Do It For You

Week-9

1. BASICS OF PYTHON

a. INTRODUCTION TO PYTHON

- Installation and Running
- Interpreter and setting up Environment
- Python Data Structures (Tuple, List, Set, Dictionary, String)
- Logics in Programming (if, elif, try/except, looping)

- Writing Functions for code reusability
- Objects, Classes & Modules
- INTRODUCTION TO NUMPY LIBRARY
- INTRODUCTION TO PANDAS LIBRARY

b. DATA ANALYSIS WITH PYTHON

- Exploratory Data Analysis
- Visualizing & Gaining Insights
- Data Cleansing & Transformations

Week-10 to Week 13

Daily Real time Product Building and Implementation Sessions

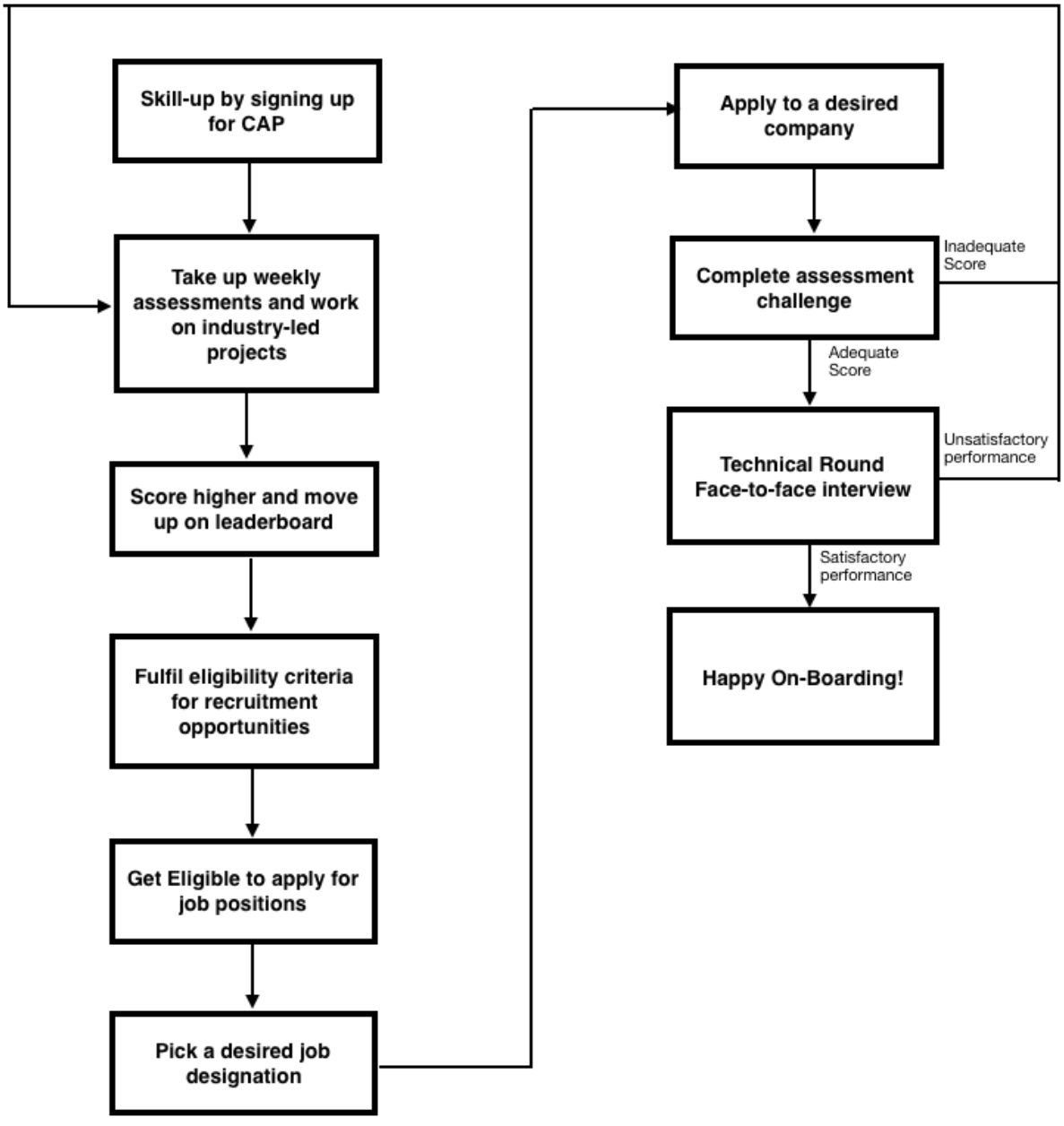
Week-14

Work on Final challenges and Assessments

Week-15

Get placed in a company

PLACEMENT FLOW



TRAINING SCHEDULE

Daily live Mentoring sessions and Weekend Industry Implementation Sessions.

Assessment every weekend.

Daily Update about trainings on the App

COURSE FEE

ENROLMENT FEES: **7500/- +GST**(Refunded after getting Placed)

Course Fees: **15% of overall CTC for 18 Month**

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