Financial Data Professional (FDP)
The *Global Designation* for Finance Professionals
in a Data-Driven Industry

Nigel Noyes
Principal Data Scientist
Technology

Mehrzad Mahdavi
Executive director, FDP Institute

Mirjam Dekker
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[ROCKET Mortgage by Quicken Loans]
The FDPi was created by CAIA to

- Provide financial professionals with the knowledge necessary to succeed in an industry disrupted by the advent of big data and machine learning.
- Advocate for the highest levels of professional ethics and standards.
- Establish the FDP Charter as a global professional designation in the area of financial data science.

EARN YOUR FDP DESIGNATION
A globally-recognized charter is awarded to FDP charter holders

TWO ONLINE CLASSES*
Choose either Python or R
Can be completed before or after the exam

ONE COMPREHENSIVE EXAM
Offered twice per year
March & November

VALUE ADD
Employers increasingly seek to find professionals to have the skills to apply data science tools to solve their most challenging problems
FDP EXAM

1. Introduction to Data Science & Big Data
5. Machine Learning: Classification & Clustering
7. Data Mining & Machine Learning: Naïve Bayes & Text Mining

Exam candidates now have one of two test options for the FDP exam

Option 1: At a Prometric test center near you
Exam window: October 12 – November 8, 2020

Option 2: Through Remote proctoring from your home/office
Exam Day: December 1, 2020

Learn more at www.fdpinstitute.org
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considerations before starting
DQ & Alerts on model inputs & outputs

Train model

Build model input ETLs

Back testing

Model performance degradation?

Dashboards for tracking relevant data

Schedule ETLs, model scoring, DQ

DQ & Alerts on model inputs & outputs

Operations development

Deliver incremental value to business

Continuous alignment with stakeholder

Yes

No

xAI communication to legal

Dashboards for tracking relevant data

Deploy model scoring

DQ & alerts on model inputs & outputs

Build integration testing for real-time ETL

Real-time scoring required?
Infrastructure requirements are different between analytics & application development.
Utility libraries to simplify use of tools
Data quality

Batch
Micro-batch

Model

Data transformation

Raw
Processed

Datamarts

Prod data across all environments – dev, stage, prod
Dev as prod, stage as prod, prod as prod
Data as a controlled process

\[ \sum_{\text{rows}} \text{db.table.column}(t) \]

Out of Control Process

\[ \mu \pm 3\sigma \]
Problem with behavior in production

Recreate problem with new input/output test pair

Test passes

Change code to fix behavior

Test fails

Change desired output to match new behavior

Test passes
EMR
1. Inject account secret
2. Pre-built base images
3. Capability to add user specified libs
4. Choose cluster configuration
   a) Node types {A, B, C, D}
   b) Max # nodes = X
5. Spin down cluster after
   a) Job complete
   b) # hours, max = X hrs
6. Share cluster that is up for X hrs across specific TMs

EKS
1. Pre-built base container for data analytics work
2. Capability to add user specified libs
3. Inject account secret
4. Permission to exec into container CLI
5. Capability to run Jupyter server in container and access at localhost
6. Utility libraries to simplify Read/Write to
   a) S3
   b) Aurora
   c) DynamoDB
   d) Redshift

Other
1. Utility libraries across each AWS service to simplify use
2. A real-time messaging system (MSK, kinesis, kafka)
3. Sandbox, training, scoring, deployment accounts
lessons learned
Thank You!
Upcoming webinars – click on the webinar you are interested in and complete registration to attend

**Making Sense of Machine Learning**
August 19th, 2020 @ 1pm EDT

**Alternative Data for Investment Strategies**
September 2, 2020 @ 1:00 PM EDT
In Closing

Our upcoming webinars and webinar recordings can be found on
www.fdpinstitute.org/webinars
www.caia.org/caia-infoseries

Learn more about the FDP Institute at www.fdpinstitute.org