

SMARTINTERNZ - GURUCOOL

# PROJECT BUILD-A-THON

**" Predicting High Potential Employees in a Corporate "**

Submitted by :

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## Introduction

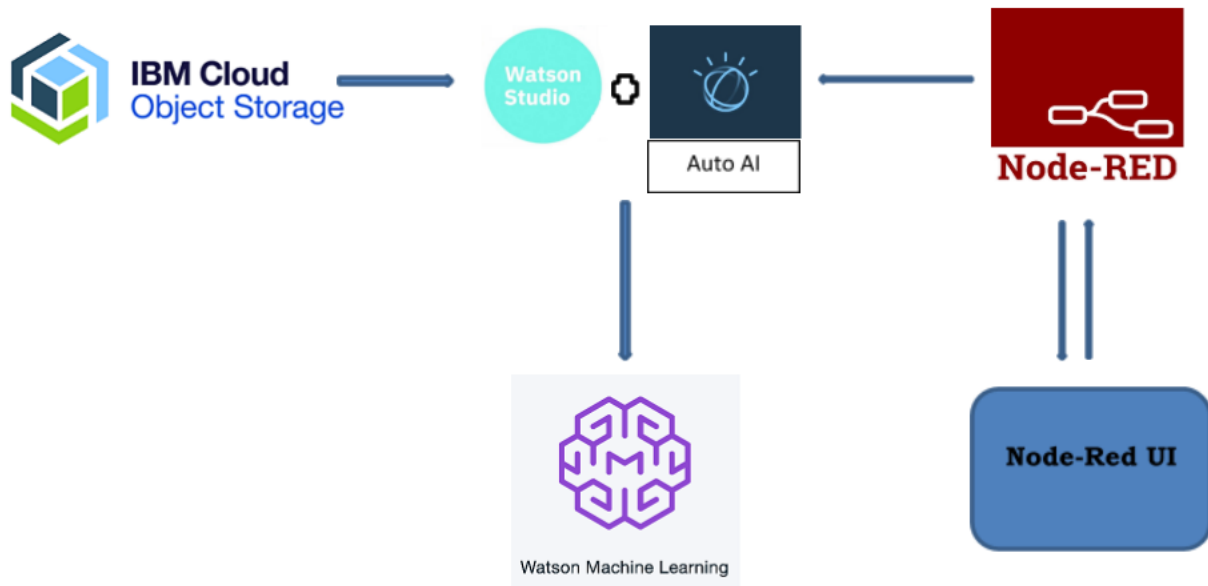
The employee is the key element of the organization. The success or failure of an organization depends on the employee. Most of the organizations or companies have a formal performance evaluation system in which employee job performance is graded on a regular basis, usually once or twice a year. A good performance evaluation system can prominently benefit an organization. It helps employee behavior toward organizational aims by permitting employees to know what is expected for them, and it yields information for making employment decisions, such as those regarding pay raises, promotion, or releases.

### Purpose :

Build & Deploy a Machine Learning model to rate the employee performance using IBM Watson Studio.

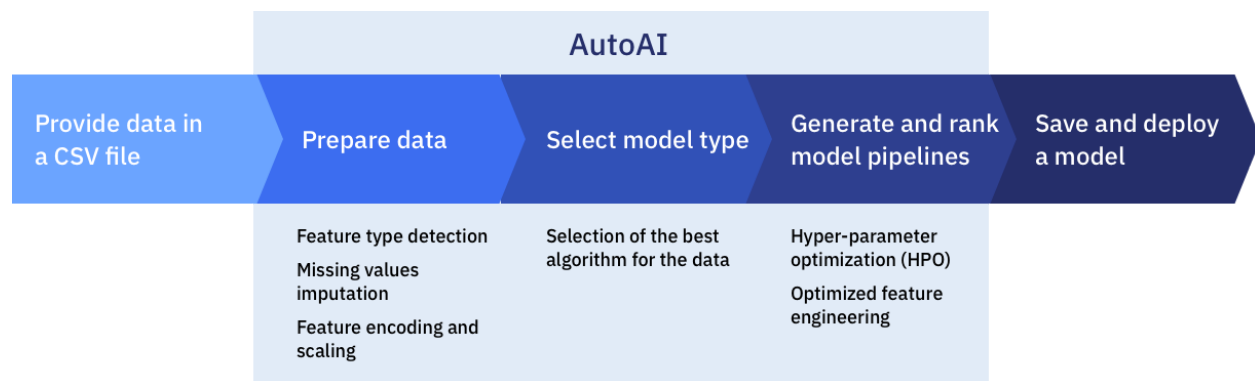
# THEORITICAL ANALYSIS

## Block Diagram



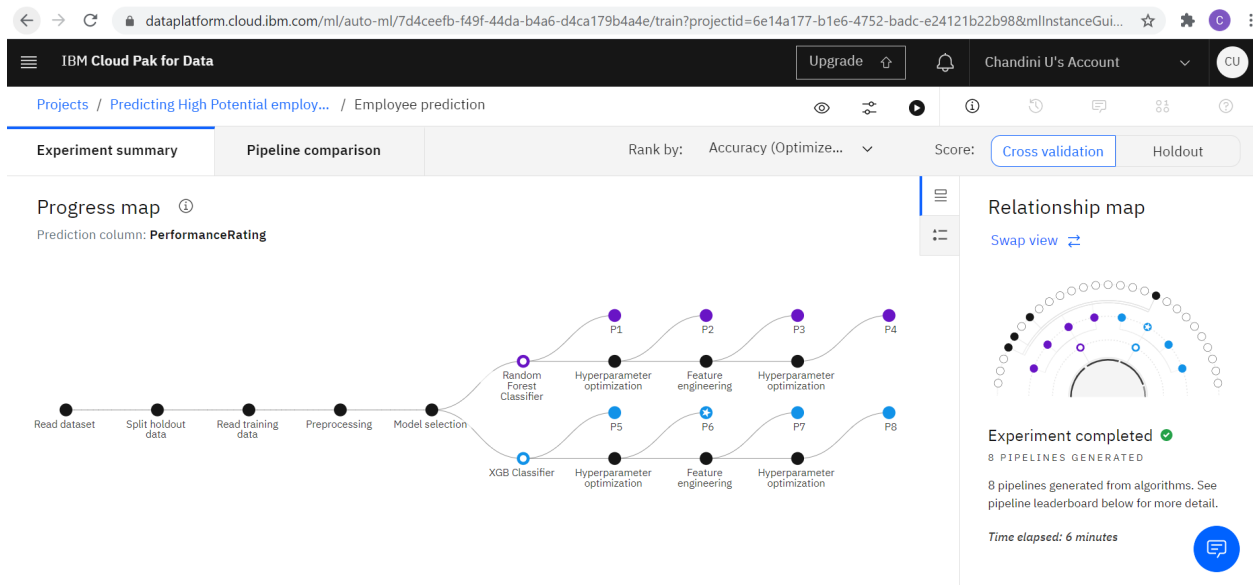
## Software Design :

The AutoAI graphical tool in Watson Studio automatically analyzes data and generates candidate model pipelines customized for predictive modeling problem. These model pipelines are created iteratively as AutoAI analyzes dataset and discovers data transformations, algorithms, and parameter settings that work best for problem setting. Results are displayed on a leaderboard, showing the automatically generated model pipelines ranked according to problem optimization objective.

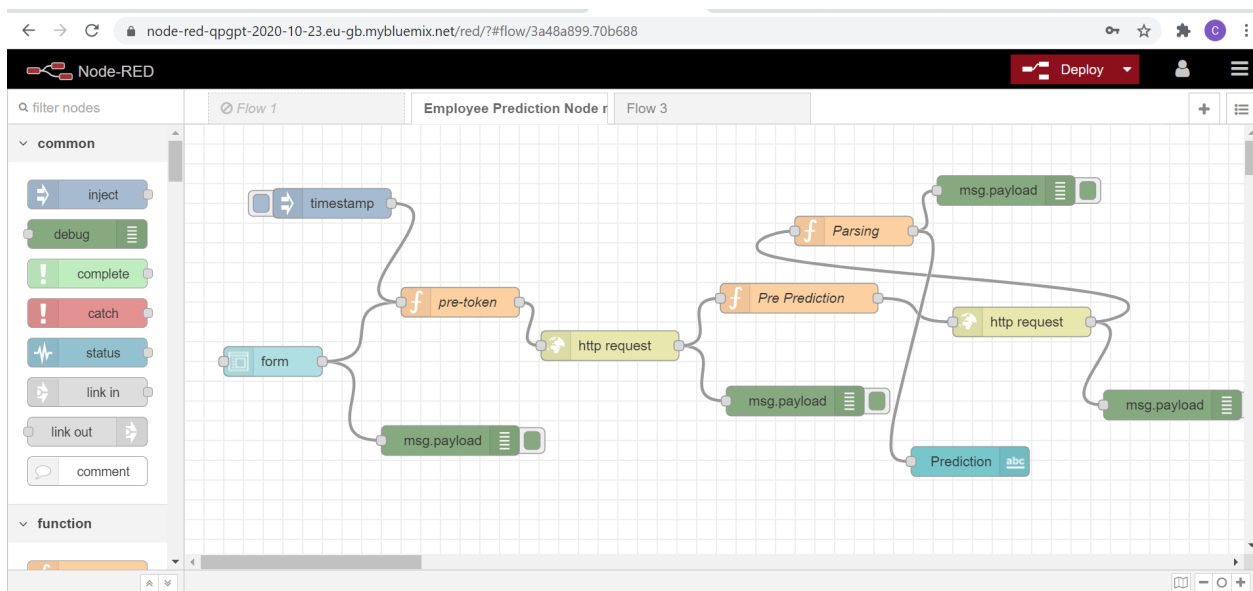


# EXPERIMENTAL INVESTIGATION

## Model Building - Pipeline



## Node -Red Program Flow



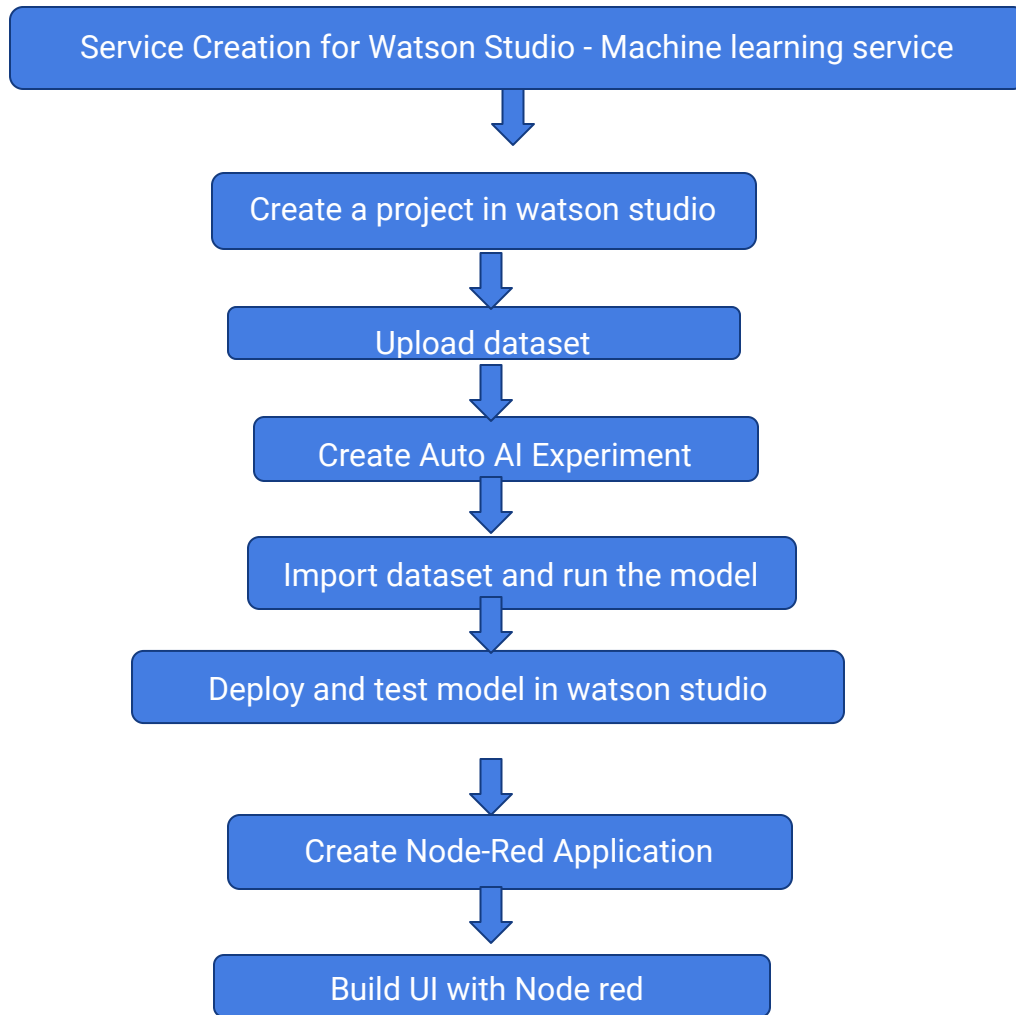
# Node - Red UI

Home

New

Education *	Master
JobInvolvement *	High
JobLevel *	3
DailyRate(USD) *	1358
MonthlyIncome(USD) *	5130
NoofCompanies Worked *	3
TotalWorkingYears *	4
YearsAtCompany *	3
YearsInCurrentRole *	3

## FLOWCHART



# RESULT

Classifier : XGB classifier

Accuracy : 84.7%

## Performance :

IBM Cloud Pak for Data						
Upgrade						
Chandini U's Account						
CU						
Projects / Predicting High Potential employ... / Employee prediction						
Experiment summary						
Pipeline comparison						
Rank by: Accuracy (Optimize...						
Score: Cross validation						
Holdout						
Rank	↑	Name	Algorithm	Accuracy (Optimized)	Enhancements	Build time
★ 1		Pipeline 6	XGB Classifier	0.847	HPO-1	00:00:17
2		Pipeline 7	XGB Classifier	0.847	HPO-1 FE	00:01:10
3		Pipeline 8	XGB Classifier	0.847	HPO-1 FE HPO-2	00:00:37
4		Pipeline 3	Random Forest Classifier	0.842	HPO-1 FE	00:00:41
5		Pipeline 4	Random Forest Classifier	0.842	HPO-1 FE HPO-2	00:01:01
6		Pipeline 5	Random Forest Classifier	0.818	None	00:00:01

# UI -Prediction

node-red-qpgpt-2020-10-23.eu-gb.mybluemix.net/ui/#/1/0?socketid=443j3tziomAmutmEAAAQ

Home

4

YearsAtCompany \*

3

YearsInCurrentRole \*

3

YearsSinceLastPromotion \*

1

YearsWithCurrentManager \*

2

TrainingTimesLastYear \*

2

Attrition \*

No

SUBMIT CANCEL

Prediction **Excellent**