Banafsheh Hassani

Bursting with data analytics skills

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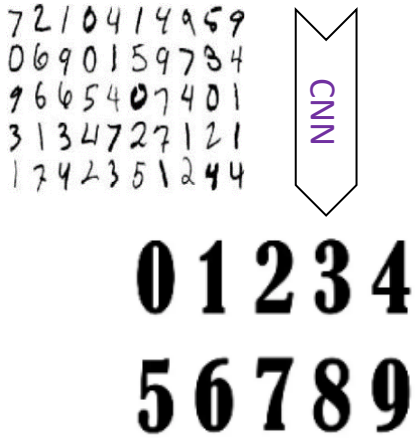
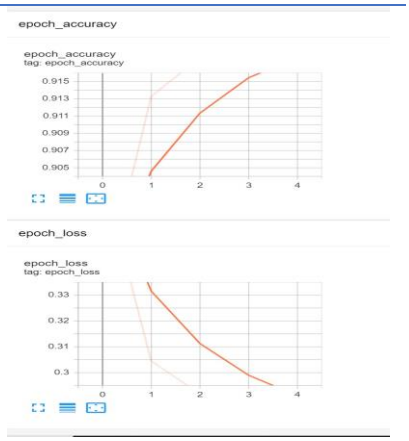
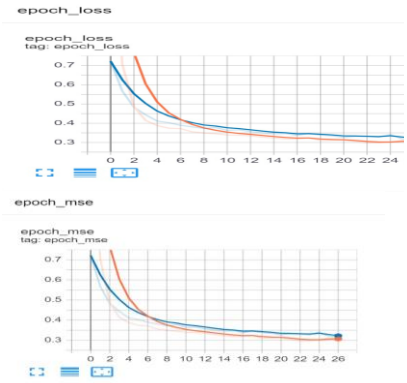
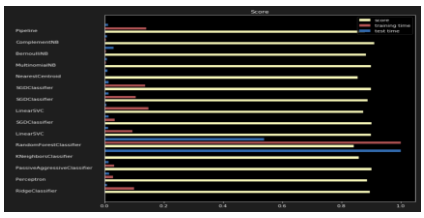
Project	Tools & Methods	Description	Visualization
Handwritten Digit Recognition This project shows how to use machine learning library (PyTorch) on the Apache Spark driver node to fit a neural network on the MINIST dataset. For handwritten digit recognition.	PyTorch library on a Spark driver single node	Data processing-MNIST Download, shuffle rows, create batches, standardiz the features Build a CNN model Training the model Running training loop over epochs, it evaluates after each.	
Tensorflow on single node Using another software library for machine learning (TensorFlow) on a Apache Spark driver node to fit neural network on the MINIST dataset. To recognise handwritten digit.	TensorFlow library on a Spark driver single node	Install tensorflow Data processing Build a model. Define loss and optimizer. Monitor training progress by inline TensorBoard Train model in batches Test the model which trained.	
Deep learning: end-to-end by using TensorFlow Keras, Hyperopt and MLflow Using AI and ML techniques on Fetch_california_housing dataset to predict house price.	Using TensorFlow Keras, Hyperopt, and MLflow to develop a deep learning model on the dataset for predict data.	Data loading and preprocess Build a neural network model by TensorFlow Keras and view training by inline Tensor Board Perform automated hyperparameter tuning with Hyperopt, MLflow and use autologging to save results. Use best hyperparameters set to create the final model. Register model in MLflow plus use the model for make predictions.	
Text documents classification by sparse features-plot Using software machine learning library(scikit-learn) to classify documents.	Using scikit-learn to classify documents by topics using a bag-of-words approach. Using the scipy.sparse matrix for storing the features and demonstrates various classifiers.	Load data split a training set and a test set. Mapping from integer feature name to original token string Benchmark classifiers Train SGD with Elastic Net penalty Train NearestCentroid without threshold Train sparse Naive Bayes classifiers Add plots	

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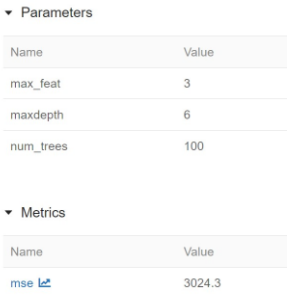
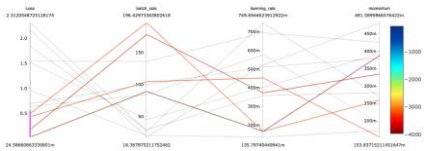
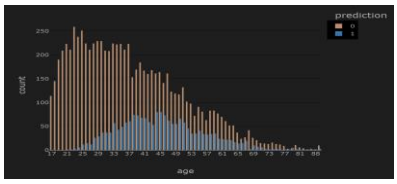
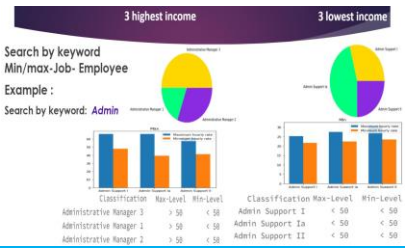
Pipeline for extract and evaluate text- Machine Pipeline for extract and evaluate text. Document classification in 20 categories.	20 newsgroups dataset is automatically download, catch and reuse for document classification. Automatically get 20 categories or user can giving category name to dataset for adjusting number of them.	Illustrate progress logs on stdout Load couple of categories from training set Analysis categories Create pipeline combining the text feature extractor with the classifier. Try more parameters to give better exploring power. Find best parameters for the feature extraction and the classifier.	
Track machine learning training runs Log runs to a notebook or workspace experiment Model on a simple dataset to Tracking training runs.	Random Forest model on a simple dataset and MLflow Tracking API to log the model.	Create a Random Forest model on a simple dataset. Uses the MLflow Tracking API to log the model. Selected model parameters and metrics	
ML Hyperopt & SparkTrials: Model Train models (Hyperopt and SparkTrials). Parallel training with Obtain the best.	Train simple classification model by MLflow tracking Hyperparameter tuning to obtain the best performing model by Hyperopt	This is an example of machine learning, for train models used scikit-learn libraries to be preinstalled on the Databricks Runtime for Machine Learning. Using MLflow to track our trained models Use Hyperopt with SparkTrials for scale hyperparameter tuning.	
Predict if an individual's income > $50,000 Using machine learning library to Investigates binary classification problem to shows is an income > 50,000.	Using Apache Spark's machine learning library to Investigates binary classification problem. Build by MLlib library features, tools for data preprocessing, machine learning pipelines, and machine learning algorithms.	Load the dataset. Feature preprocessing Define the model. Build the pipeline. Evaluate the model. Hyperparameter tuning Make predictions and evaluate model performance	
Job Analysis Recommend sorted job by user exception.	Problem statement Data cleaning Exploratory analysis Feature engineering Methodology	Get user expectation (by asking question from user) and recommend some sorted job category with salary range and information.	

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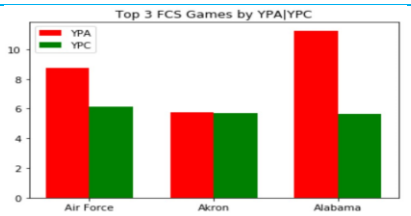
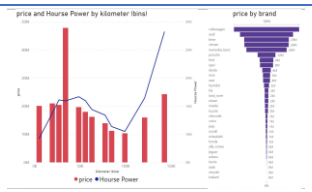
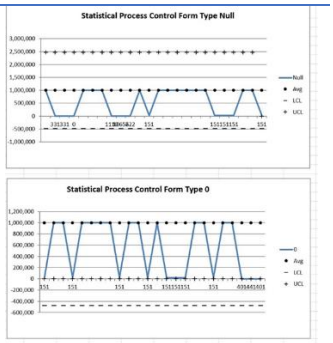
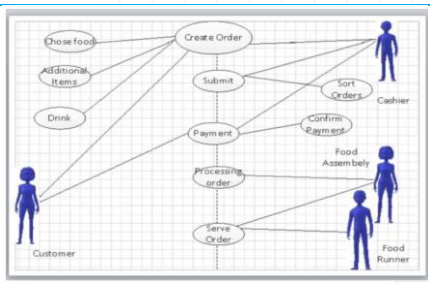
3 Top FCS Games from 'College Football Data API' Visualizing top 3 FCS game live from: api.collegefootballdata.com	Plays, YPA and YPC summarize by function classified by City.	Load data from api Data preprocess Plays, YPA and YPC summarize by function. 3 Top FCS Games Plot data	
Playing FIFA made me think to have real match result for each 2 teams I chose for game. I like to have other players data in the same game and my history to compare them with my las result. That inspired me to work on football data	Contain some dashboards includes related chart from processed data to get maximum information from them.	This report containing a map to show countries and count of the matches played by heatmap for each. the table to show information by text and the line chart to compare countries in term of number of matches they had played on world cups from 1930 to 2014.	
Introduction of FIFA world cup history FIFA world cup history.			
PowerBI - California houses Analysis of California houses price.	Analysis California houses price by house size and other factors.	Include some graphs on each dashboard, each has some related chart to filter data and get more insight from charts.	
Greater Vancouver Business License I love data preparation, that's my magic to understand data faster and prepare that for perform exploratory analysis an d modeling.	**Dataset anomalies:** • *Blank cells* • *Duplicates* • *Abbreviations* ***Data quality assessment (DQA)*** Initial assessment: SME review, research, suggestions by DQ rules.	Vancouver Business License dataset Includes sort of relevant column. Initial screen of the dataset revealed some anomalies, that has been extensively analyzed. The graph shown **SPC**.	
Food order Food ordering process.	Analysis of food ordering process.	**Business Analysis** Microsoft Visio **ECS System Use-Cases** Use-Case Name Actor Trigger Responses **Check-out Equipment** Actor Action System Response.	
Happy Birthday Yalda! That was a gift for my sister's 11th birthday with her last year picture 😊 *2009*	Bitmap Adobe photoshop.	Create layers 1. Red puzzle background 2. Emoji face 3. Original photo Cut original photo background Put top of red puzzle layer Put emoji on the top of all them Wrote the message on all	

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Violet BG A personal background for Facebook cover and other pictures background.	Bitmap Adobe photoshop.	Create purple wings with brush on a transparent background Make texture filter with big size copy of that make upside down. Have a black background on another layer at the bottom.	
Banafsh BG *A personal background with my name and my shadow*	Bitmap Adobe photoshop.	Have original photo on a layer Cut the background and make it transparent Change picture to shadow Add texture filter on it Create a purple black layer put on background Write Banafsh on another layer on top Add yellow boarder on text	
Kindergarten banner *(Rushte Banafsheha)* *I used to work on a kindergarten and design their panel.*	Bitmap Adobe photoshop.	Have a white page with a big blue-white circle in the middle Have another layer contains children photo with transparent background Have flowers on a layer in a circle (to fill earth shape) Have a layer for text at the top	
My beautiful princess *That was a photo editing for my sister she wishes to have a photo with puzzle bird*	Bitmap Adobe photoshop.	Add some filter on original photo Cut original photo background (under tree) Have a pink-purple layer to create background Draw a bird shape and fill pink Make it puzzle	
Marry Christmas *That was a Christmas cart I designed.*	Bitmap Adobe photoshop.	Create a background layer and color it Have another transparent layer to draw tree, color it and make some snow on it. Copy layer, count of trees. Have a Santa Claus with transparent background on another layer and put on top	

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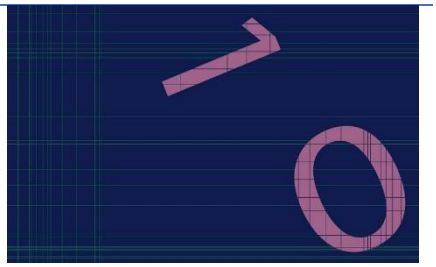
Haji Firuz *Nowruz (Persian new year) is one of my favorite occasions in year. Haji Firoz brings happiness with singing and dancing.*	Bitmap Adobe photoshop.	Have a white background layer Create shape and color on another layer with transparent background	
Banafsheh Design my name on a leaf to engrave on a wood surface. (personal purpose)	Bitmap Adobe photoshop.	Create a leaf on a white layer Add texture filter on Having text in desire format on another layer	
Binary cover My old Facebook cover. (2011)	Bitmap Adobe photoshop.	Have a blue background on a layer Have 1 and 0 on a layer Chane their place Decrease layer transparency to 80% Combine all layers and draw some horizontal and vertical lines.	
Valentine card I created a valentine card for my mom with my picture. (2005)	Bitmap Adobe photoshop.	Have photo on a layer Change transparency to 90% Put heart-rose picture layer on top Change transparency to 45%