Danny Ki [Data Scientist]

CONTACT

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SKILLS

Data Science[Python]
Numpy/Pandas.
Sklearn/Statsmodel
Seaborn/ggplot
Tensorflow
Keras

Languages
Python
R

RDBMS and NoSQL
MySQL
MongoDB

Big Data
Hadoop
Spark
Hive

Framework
Flask

Cloud
AWS

PERSONAL

EDUCATION

- **FAST CAMPUS** - Seoul, Korea — **JAN 2018 - MAY 2018**
  - Data Science School
- **UDACITY** - Online Course — **JUL 2017 - AUG 2017**
  - Intro to Programming Nano degree
- **MYOUNGJI UNIVERSITY** - Seoul, Korea — **MAR 2000 - FEB 2009**
  - Bachelor's Degree in Business Administration and International Business

[GPA : 3.6 / 4.5]

PROJECT

Portfolio Website: http://datavoyagerdanny.com

- **Predict Used-Car Price in Georgia [Service Website : http://dannyki.ga/] / XGBoost**
  - Crawled on cars.com to collect data and store it in AWS's mysql.
  - After preprocessing stored data, put it in machine learning model to predict used car price.
  - Models learned on AWS server implemented as web services using Flask web framework.
- **[KAGGLE Competition] Predict House Prices / OLS Regression**
  - Developed and applied OLS algorithms to predict house prices in Ames, Iowa.
  - It was the first project I submitted to the Kaggle Competition and solved the problem with a probabilistic approach.
- **[KAGGLE Competition] Spooky Author Identification / Naive Bayes Classification**
  - As a text analysis project, it was a problem seeing which authors wrote articles. After vectorizing words, classified them via machine learning with Naive Bayes Classification .
- **[KAGGLE Competition] Titanic Machine Learning from Disaster/ Voting Classifier**
  - Predicted survival on the Titanic.
- **[KAGGLE Competition] Bike Sharing Demand / Random Forest**
  - Forecasted bicycle demand using R language.

CERTIFICATION

FAST CAMPUS
- Machine Learning with R
- Apache Hadoop

COURSERA
- Machine Learning *(Andrew Ng)*
- Machine Learning Foundation *(Carlos, Emily)*
- Introduction to Probability and data *(Mine)*
- Python Programming *(Charles Severance)*

EXPERIENCE

Sales and Logistics Assistant Manager — **AUG 2015 - DEC 2017**

Dongwon Autopart Technology Georgia LLC (web site) — *Hogansville, Georgia*
- Analyzed financial reports, markets, and other data to maximize profit and minimize costs.
- Established the negotiating strategy for sales and took the lead position in automotive markets.

Purchasing Assistant Manager — **DEC 2013 - JUL 2015**

Kukdo Chemical Co.,LTD. (web site) — *Seoul, Korea*
- Negotiated with various vendors to ensure that a fair price for goods using ICIS and Platts.
- Monitored and evaluated supplier metrics for capability, performance, and delivery to meet organization planning and forecasting needs.

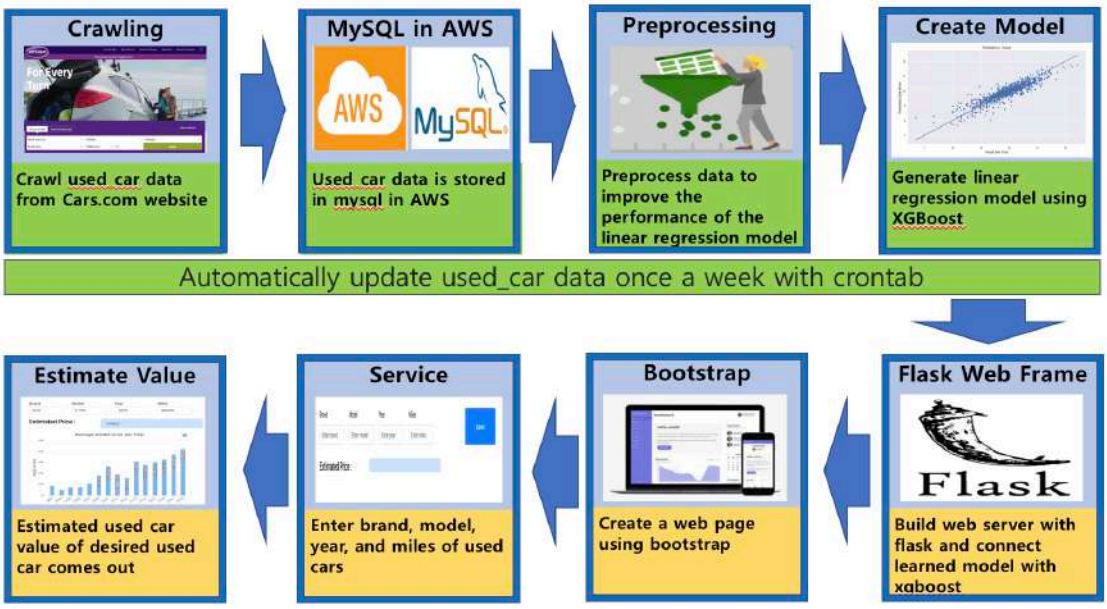
Purchasing Specialist — **OCT 2011 - NOV 2013**

Lotte Chemical Alabama Corp (web site) — *Auburn, Alabama*
- Planned and purchased chemical materials from domestic and imported vendors with economic conditions.

PROJECT

(1) Predict Used-Car Price in Georgia

Subject : Machine learning based vehicle forecasting program
Period : 2018. 03 - 2018. 04
Tech : Python (Pandas, Scikit-learn), Data Crawl , AWS, Flask, MySQL, Bootstrap
Model : XGBooster (Accuracy : 88%)
Structure :



Service Website : http://dannyki.ga/
How to use the Service Website :

➔ Fill in the information and then press the submit button.

➔ You can check the price of the used car you want, and you can also check the average price for different years with the same model.

Comment : If I use many variables to increase the accuracy of the expected car value, it is very inconvenient for the user to enter all the variable information into the web service page(http://dannyki.ga/). So, only the four most influential variables (Brand, Model, Year and Miles) are used, and when you enter these variables, you get the expected car value.

PROJECT

(2) [KAGGLE Competition] Predict House Prices

Subject : Predict house prices in Ames, Lowa
Period : 2018. 01 - 2018. 03
Data : Train Data - 81 variables and 1460 house data
Test Data - 80 variables and 1459 house data
Python : Preprocessing - Numpy, Pandas
Graph - Matplotlib, Seaborn
Model : **OLS (Ordinary Least Squares) Model**

OLS Regression Results

Dep. Variable:	SalePrice	R-squared:	0.945
Model:	OLS	Adj. R-squared:	0.942
Method:	Least Squares	F-statistic:	403.6
Date:	Mon, 26 Mar 2018	Prob (F-statistic):	0.00
Time:	21:13:50	Log-Likelihood:	1405.0
No. Observations:	1383	AIC:	-2696.
Df Residuals:	1326	BIC:	-2398.
Df Model:	56		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
Intercept	12.1018	0.059	204.753	0.000	11.986	12.218
C(Neighborhood)[T.Blueste]	-0.0265	0.069	-0.381	0.703	-0.163	0.110
C(Neighborhood)[T.BrDale]	-0.0495	0.037	-1.347	0.178	-0.122	0.023
C(Neighborhood)[T.BrkSide]	-0.0058	0.031	-0.184	0.854	-0.067	0.056
C(Neighborhood)[T.ClearCr]	-0.0454	0.033	-1.383	0.167	-0.110	0.019

Insight : Among the 79 house value related variables, it is best to predict the house value by using 18 numeric variables (GrLivArea, OverallQual and so on) and 5 category variables (Neighborhood, KitchenQual and so on). R-squared was the highest with 0.942 and the kaggle score was 0.12384.

Kaggle Score : 0.12384 / Kaggle rank : 1042 / 4548 (22.9%)
Github : https://github.com/kish191919/House_Price_Project_by_Python

(3) [KAGGLE Competition] Spooky Author Identification

Subject : Identify an author from sentences which they wrote
Period : 2018. 03 - 2018. 04
Data :Train Data - 3 variables and 19,579 text data
Test Data - 2 variables and 8,392 text data
Python : Natural Language Processing - Stopword, Stemming
Vectorization - CountVectorizer
Model - Randomforest, AdaBoost, SVM, Naive Bayes Classification
Model : **Naive Bayes Classification**

```
Confusion Matrix :
 [[7414  110  376]
 [ 631 4764  240]
 [ 588   89 5367]]
```

10-fold Cross Validation Report:

	precision	recall	f1-score	support
0	0.86	0.94	0.90	7900
1	0.96	0.85	0.90	5635
2	0.90	0.89	0.89	6044
avg / total	0.90	0.90	0.90	19579

Insight : The performance of Precision and Recall was different according to the method of text processing and machine learning algorithm. Among them, the Naive Bayes Classification distinguished the author well, and the precision and recall were high.

Kaggle Score : 0.48767 / Kaggle rank : 793 / 1244 (63.7%)
Github : https://github.com/kish191919/Spooky_Author_Identification_by_Python

PROJECT

(4) [KAGGLE Competition] Titanic Machine Learning from Disaster

Subject : Predict survival on the Titanic
Period : 2018. 03 - 2018. 04
Data : Train Data - 12 variables and 891 data
Test Data - 11 variables and 418 data
Python : Preprocessing - Numpy, Pandas
Graph - Matplotlib, Seaborn
Models - DecisionTree, Randomforest, Adaboost, Support Vector Machine,
Naive Bayes Classfication, VotingClassifier
Model : **VotingClassifier**

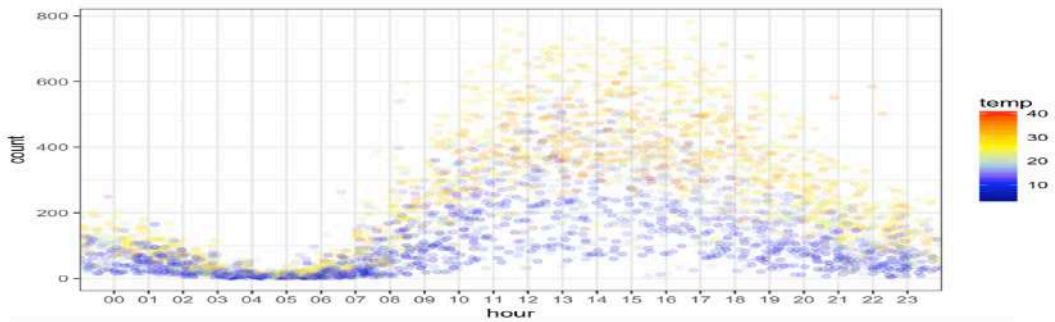
```
Confusion Matrix :
 [[484  57]
 [ 80 260]]


10-fold Cross Validation Report:
              precision    recall  f1-score   support

           0       0.86      0.89      0.88       541
           1       0.82      0.76      0.79       340

avg / total       0.84      0.84      0.84       881
```

Insight : The survival rate was higher when the female was in the 1st class, the ages were in the 20s to 50s, and the family size was 1 or 2.

Kaggle Score : 0.78468 / Kaggle rank : 4304 / 10676 (40.3%)
Github : https://github.com/kish191919/Titanic_Machine_Learning_from_Disaster_by_Python

(5) [KAGGLE Competition] Bike Sharing Demand

Subject : Predict demand on bike
Period : 2018. 04
Data :Train Data - 12 variables and 10,886 data
Test Data - 9 variables and 6,493 data
R : Preprocessing - dplyr
Graph - ggplot
Model - Randomforest
Model : **Randomforest**



Insight : The temperature and the demand for bicycles have a correlation with each other. The higher the temperature, the higher the bicycle, especially after lunch and before dinner.

Kaggle Score : 0.48613 / Kaggle rank : 1,357 / 3,251 (41.7%)
Github : https://github.com/kish191919/Bike-Sharing-Demand_by_R