To whom it may concern

I'm writing to you to apply for the data scientist position at Citi. I recently graduated from Rutgers University after studying operations research and statistics and my unique mix of education and experience make me an ideal candidate for the position.

Before and during my graduate studies, I had a chance to work for my father's business where I was helping with implementing some data analytics and data management ideas. Before I got involved there was almost no use for the data being collected, however I was able to implement ways to leverage the data for creation of better products and customer analytics for the company. This experience has led me to further my studies in statistics at Rutgers.

In my graduate studies at Rutgers, I initially started out only studying statistics due to my interest in data mining and machine learning. However I realized that the models used in data mining and machine learning techniques are essentially extensions of mathematical optimization, so this led me to study operations research as well.

I've always had a tremendous interest in data analysis and during my studies I have worked extensively with data mining and machine learning methods during my studies. I have applied what I've learned to everything from survival analysis of cancer patients, creating models that predicted whether patients have malignant or benign cancer using random forests and SVM methods and modeling marketing and consumption behaviors of Johnson & Johnson's subsidiary companies using Bayesian Network. I am also quite familiar with Bayesian approach to data analysis.

I also have a very broad exposure to the field of optimization and it's a perfect complement to my knowledge about data mining and machine learning. In operations research courses, I've learned different techniques including, stochastic, integer, linear, non-linear, combinatorial and network optimization along with a course on algorithms. I was able to apply what I learned in quite a few different projects, and I'm quite confident that this skill set will transfer very well for this position.

In terms of programming skills, I have strong hands on experience with SAS, Python, SQL and R as I've used them extensively while doing data analysis, modeling and optimization before and during my studies.

In closing, I believe that my background in optimization, statistics and machine learning make me a very strong candidate for this position. I have the tools to understand the theories behind the models used in machine learning and statistical modeling and I'll be a very valuable member who can help with data analytics and modeling to support the need of the Global Analytics & Insights unit.

Thank you for your consideration and I really look forward to hearing from you.

Sincerely

Youngwook Kim

YOUNGWOOK KIM
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Education:

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY New Brunswick, NJ

- 3.65 Cumulative GPA

Master of Science in Operations Research 2013-2015 May Graduation

- 3.95 Major GPA

Master of Science in Statistics 2012-2015

- 3.70 Major GPA

Related Course Work

•Linear Programming	•Stochastic Programming	•Discrete Optimization
•Algorithms	•Monte Carlo Simulation	•Data Mining
•Time Series Analysis	•Non Parametric Statistics	•Multivariate Analysis
•Design of Experiments	•Machine Learning	•Survival Analysis

UNIVERSITY OF CONNECTICUT Storrs, CT

Bachelor of Arts, Economics, minor in statistics, May 2010

Relevant Projects:

Malignant and Benign Cancer Prediction

- Goal was to predict whether patients had benign or malignant tumor using 31 variables that describe the shape characteristics of cancer cells
- Statistical models such as Logistic-Lasso, Logistic-Ridge regression, SVM, decision tree and data reduction methods where used to come up with prediction models
- Cross validation, bagging, bootstrapping and random forest methods were used to come up with the model with highest accuracy
- Test error rates were around 2-7% for all the models

Bayesian Network on Johnson & Johnson's marketing data

- Goal was to model how subsidiary companies of J&J were using marketing and IT services
- There are four groups of subsidiary companies and my group was able to show that their consumption habits were quite different and was able to model their behaviors
- Presented the findings to representatives from J&J

Experience:

MSsono Bundang, Korea

1/11-4/12 Family Business (Part-time)

- Advised on data collection and statistical methods for better understanding of potential students and current lecture attendees
- Analyzed survey data to see how different groups were rating the lectures
- Performed association rule analysis on attendees to find any discernible patterns

8/10-12/10 **DAEWOO SECURITIES** Seoul, Korea

Equities derivatives trading, Intern

- Applied basic statistical modeling and correlation analysis to stock data
- Used historical data to backtest strategies' performance
- Created and maintained daily market briefings for traders

Additional:

- Proficient in VBA, Python, MATLAB, SAS, R and Microsoft Office
- Working knowledge of Text Mining, NLP, SQL and C++
- Student member of INFORMS, ASA
- Recipient of the President's Volunteer Service Award
- US Citizen