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Valley National Bank

Wayne, NJ 07470

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| Dear Valley National Bank, My name is Walter Lai, a student in the Master's of Data Science Program at Southern Methodist University. Please consider this letter as my cover letter for the Quantitative Model Validation Intern position as posted on Indeed. I am really passionate about data science and would love to work with your team. Please let me explain how I am a great candidate.  The posting indicates that you are looking for a candidate with extensive experience in model validation. I have created an R Shiny app that allows users to build and evaluate a regression model to predict employee salaries. Action buttons allow users to add and remove variables from the regression model. After each time a user adds or removes a variable the app displays the Root Mean Square Error of the new model. The app also graphs partial residual plots using ggplot2 to help the user choose which variables to keep, remove or add.  The app: <https://wlai0611.shinyapps.io/multiregshiny/>  The posting also indicates that the candidate should have knowledge of machine learning. I will describe 2 projects in which I used machine learning.  I have scored in the top 18th percentile of a Kaggle competition  in a team with 4 other classmates to create a multiple regression model to predict house prices in Ames, Iowa. I created SAS macros to evaluate Root Mean Square Error for possible models using Monte Carlo simulation. Additionally, I have created an R Shiny app that allows a user to build and evaluate a Naïve Bayes model that predicts if an employee will quit his/her job. After each time a user adds or removes a variable, the app plots the cross validated Sensitivity and Specificity of potential models.  The app: <https://wlai0611.shinyapps.io/bayesshiny/>  The posting also prefers a candidate with SQL and Python experience. I have included my experiences with those in my resume.  I would love to join your team! Please email me at walterlaicollege@gmail.com.  Walter Lai |