LINYI (LINCOLN) GUO

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SUMMARY

- Over 3 years of experience in data cleaning, data visualization, data analysis, statistical modelling and machine learning
- Outstanding analytical skills with ability to tell the story behind data clearly and succinctly
- Demonstrated record of facilitating analysis/predictions and performing ad-hoc analysis with statistical methods
- Proficient in statistical programming languages/tools such as Python, SQL, SAS, R and Tableau
- Excellent team player and self-starter with great communication and presentation skills
- A motivated M.Sc. in Statistics (9.8/10.0) with a passionate interest in data science and machine learning

PROFESSIONAL EXPERIENCE

Manager, Quantitative Analytics, The Bank of Nova Scotia   **November 2021 – Current**
- Calculate and monitor CCR metrics (EAD, MTM, RWA, etc), analyze trends and target potential data issues
- Build data pipelines for each month/quarter end, collaborate with over tons of stakeholders to ensure data accuracy
- Prepare and deliver 10+ quarterly reports using **Python**, **SQL**, **Power BI** and **Excel**
- Responsible for developing and maintaining automation scripts to improve work efficiency

Statistical Programmer, Everest Clinical Research Company   **May 2021 – October 2021**
- Performed clinical trial database quality/integrity checks by generating **SAS** data TLGs for data reviewing and cleaning
- Developed SAS programs and generated complete, accurate and validated statistical TLGs in well-defined formats
- Programed and performed quality control of SDTM and ADaM datasets according to the dataset specifications

***Research & Teaching Assistant*, University of Ottawa - Ottawa, ON**   **September 2018 – October 2020**
- Brought down the prediction error (MSE) by 25% on average for the US unemployment dataset by applying hidden Markov models (aka state space models) and Bayesian analysis
- Constructed HMMs to break down the retail sales dataset into trend, seasonal and noise components, and achieved better visualization results using **R** and **Python**
- Customized HMMs under specific parameters and adopted parallel computation to accelerate the training
- Delivered tutorial courses and graded assignments and test paper in Math and Stat for over 700 undergraduates
- Assisted undergraduates in dealing with learning problems, and provided regular, accurate and timely feedback

Data Analyst, China Life Insurance Company - Henan, China   **July 2016 – September 2016**
- Maintained the local branch's database with **SQL** daily, including updating, inserting and removing data
- Collected, input and analyzed clients' data from salesmen, marketing channels and other sources
- Utilized **Excel** to compute statistical data and draw diagrams to provide actionable insights upon clients' data
- Compiled visualised analysis reports and presented the results for decision making

PROJECTS

Hand-written Digit Recognition and Overview of Graph Neural Network
- Built a perceptron (1-layer NN) from scratch using **Python** and achieved 91% accuracy
- Utilized library **keras** to build a 2-layer NN and elevated the accuracy to 98% from 91%
- Self-studied the GNN, and wrote an overview to introduce GNN and how it works

CANDEV Data Challenge: Government Funding
- Preprocessed data using SQL and did variable selection using frequency table and factor analysis
- Utilized basic charts and a dynamic bubble chart on geographical maps to illustrate the funding trend and distribution
- Published the whole project as an interactive web-based application through **R Shiny** Server

Mobile Phone Customer Behavior's Analysis and Prediction
- Drew frequency table, bar chart, fan chart and computed descriptive statistics to explore data with **R, SQL** and **Excel**
- Utilized techniques in survival analysis such as cox regression to analyze and select variables
- Adopted cox regression to do survival analysis and variable selection, trained a logistic models and decision trees
- Tested the performance and made ad-hoc analysis, achieved 87% prediction accuracy on average in the end

EDUCATION

M.Sc. in Statistics, University of Ottawa – Ottawa, Canada   **September 2018 – October 2020**
GPA: 9.8/10.0
B.Sc. in Mathematics, Zhengzhou University – Zhengzhou, China   **September 2014 – June 2018**
GPA: 3.7/4.0

PROGRAMMING & CERTIFICATES

Programming: Python, SQL, SAS, R, Microsoft Office, Markdown, LaTeX, Git(Hub), Linux, MATLAB
Certificates: AWS Certified Cloud Practitioner (AWS), FRM PART I, IBM Data Science Professional Certificate (IBM), Deep Learning (Deeplearning.ai), SAS 9.4 Advanced & Based Programming (SAS)