Joohyeok Seo (Jacky)

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PROFILE

As a Statistics graduate skilled in multivariate analysis, time-series modeling, and Bayesian methods, I leverage advanced statistical techniques to solve complex problems. Proficient in Python, R, and SAS, I combine technical expertise with hands-on project experience. Currently enrolled in SK Group's AI training program, I am eager to deepen my knowledge of AI-driven statistical methods through a Master's degree at the University of Toronto.

EDUCATION

Bachelor of Science in Statistics
Simon Fraser University, Burnaby, BC, Canada (June 2024)

- Final Semester GPA: 3.44 (Full-time load)
- Selected Relevant Courses: Applied Multivariate Analysis, Statistical Theory, Applied Time Series Analysis, Statistical Analysis of Sample Surveys, Linear Models in Applied Statistics, Advanced Statistical Computing, Stochastic Processes - Full course list available here.

SKILLS

- **Data Analysis & Statistical Tools:** R & Python (Numpy, Pandas, ggplot2, plotly), SAS, SQL, Tableau, RStudio, Jupyter Notebook
- **Statistical Techniques**: Regression Analysis, Multivariate Analysis, Time-Series Analysis, Bayesian Methods
- **Cloud & Technologies**: AWS, GCP, Machine Learning, Deep Learning (TensorFlow, PyTorch), Natural Language Processing (NLP), Large Language Models (LLM), Multimodal Data Processing

PROJECTS

Customer Churn Prediction Model (Completed December 2024) GitHub Repository

- Applied machine learning algorithms, including XGBoost, Random Forest, and RNN to predict customer churn.
- Evaluated model performance using statistical metrics such as accuracy (95.7%) and recall, identifying XGBoost as the most robust model.
- Designed an interactive interface with Streamlit for real-time predictions, enabling actionable insights for customer retention strategies.

Predicting Lotto Numbers with AI (Completed December 2024) GitHub Repository

- Developed machine learning models combined with statistical analysis (Chi-square, Poisson) to analyze patterns and predict lottery numbers, integrating PCA, Random Forest, and hybrid deep learning (CNN + LSTM) techniques.

Canadian Gas Price Analysis and Prediction (Completed December 2024) GitHub Repository

- Analyzed Canadian gas prices using statistical methods, clustering (K-means), and time-series forecasting (SARIMA). Built a recommendation system to optimize fuel selection. Results provided insights into price trends and regional differences, supporting data-driven decision-making.

Laptop Price Determination Analysis (March ~ April 2024)

GitHub Repository

- Analyzed over 1,000 laptop entries to determine pricing factors using R. Applied multiple linear regression and ANOVA, explaining 82% of price variance. Key insights supported data-driven pricing strategies for electronic goods.

Dining Preferences Analysis at SFU (February ~ April 2024)

GitHub Repository

- Conducted statistical analysis of dining preferences among 54 SFU students. Used Python (Pandas, Matplotlib) to identify trends and preferences, leading to a 15% increase in student engagement. Findings optimized dining service strategies and improved satisfaction.

EXPERIENCES

SK Group AI and Data Science Intensive Training Program (October 2024 ~ April 2025)

- Completed a competitive AI and data science training program, gaining expertise in Python, predictive modeling, and multimodal data integration, with a focus on natural language processing (NLP), fine-tuning large language models (LLMs), and developing cloud-based applications using AWS.

Hanwha – Data Analyst (February ~ August 2023)

- Managed and analyzed customer data using Python, increasing engagement by 10% (~500 active users monthly), automating workflows to improve efficiency by 20% and reducing manual work by 2 hours daily, contributing to a 15% sales increase.

LEADERSHIPS

Republic of Korea Army – Squad Leader (September 2020 ~ March 2022)

- Led a team of 10 soldiers, managing operations and fostering team cohesion in a structured environment.

JDM Club – Student Leader (September 2015 ~ December 2019)

- Represented JDM, a student leadership organization at SFU, coordinating events and promoting teamwork and personal growth among members.

VOLUNTEERS

Potters Place Mission - Community Service Assistant (September 2017 ~ December 2019)

- Organized outreach programs and improved resource distribution efficiency to support Indigenous communities.

Global Give Society – Volunteer Tutor (January ~ October 2016)

- Designed tailored lesson plans and mentored underprivileged students, enhancing their mathematics performance.

REFERENCES

1. **Dr. Brad McNeney**: Associate Professor | Department of Statistics, Simon Fraser University | Email: brad_mcneney@sfu.ca | Phone: +1 778-782-4815.
2. **Dr. Haolun Shi**: Assistant Professor | Department of Statistics, Simon Fraser University | Email: haolun_shi@sfu.ca | Phone: +1 778-782-6998.
3. **Dr. Samopriya Basu**: Post-doctoral Fellow | Department of Statistics, Simon Fraser University | Email: samopriya_basu@sfu.ca | Phone: +1 604-723-2719