Saruul Khasar

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SUMMARY

A former quantitative economics Ph.D. student with 5+ years of experience in data analysis, data visualizations, prediction modeling, and reporting. Check out my portfolio website for some side projects that I worked on.

TECHNICAL SKILLS

Languages: Python (pandas, numpy, statsmodels, matplotlib, sklearn), R, PostgreSQL (AWS RDS)
Technologies: Git, Tableau, Power BI, Microsoft Excel, LaTeX, Eviews, Stata
Statistics: Time series analysis, Simple regression, Logistic regression, Hypothesis testing

WORK EXPERIENCE

Division of Financial Management, State of Idaho   Boise, ID
Forecasting Economist   Nov 2020 – present

- Developed a new statistical prediction model for sales tax and tax relief fund using SARIMA and regression models; reduced testing set errors by 30 percent, and reported the prediction outcomes every month.
- Constructing budget forecasting models by cleaning and manipulating datasets collected from multiple agencies; creating Tableau dashboards for preliminary descriptive analysis, and testing different regression models on Python and R for the Top 10 budget components.
- Created monthly and quarterly economic analysis reports and automated visualizations on Python using matplotlib, seaborn, and plotly.
- Replicated Barnichon and Nekarda (2012) unemployment rate prediction model paper on Python and building a similar model for the case of Idaho.

NewPoint.io   Seattle, WA
Data Scientist intern   Jun 2020 – Nov 2020

- Developed index metrics scaled from 1 to 100 to measure students' job-related experiences and the strength of profile matches for prospective employers; created guidelines and worked closely with the engineering team to incorporate the metrics on the virtual job fair platform.
- Cleaned and manipulated 8 million computers' specifications and settings dataset on AWS SageMaker; trained Random Forest and CatBoost models to predict the computer's probability of getting malware; presented the findings to stakeholders using PowerBI dashboard.

Central Bank of Mongolia   Ulaanbaatar, Mongolia
Research Economist   Mar 2015 – Aug 2018

- Created, maintained, and reported key financial metrics (e.g. NPL, LTV, D/E, and maturity mismatch ratios) dashboard for 14 commercial banks' 12 billion USD worth of assets and liabilities to help monitor credit risk, liquidity risk, and markets risks.
- Predicted banks' propensity to endure liquidity risk using regression models and assessed the amount of required liquid assets to overcome the liquidity risk.
- Measured effectiveness of selected macroprudential tools using multivariate regression model on panel data and published a research paper in The South East Asian Central Banks (SEACEN) Research Journal.

EDUCATION

University of Washington, Seattle   *MA in Econometrics and Quantitative Economics*   Sep 2018 – Jun 2020
Coursework: Advanced Statistics, Programming, Database Management, Time-Series Analysis

University of Michigan, Ann Arbor   *MA in Applied Economics*   Sep 2013 – Dec 2014
Coursework: Statistics, Quantitative Methods, Econometrics, Applied Business Forecasting

National University of Mongolia   *BA in Economics*   Sep 2008 – Jun 2013
Coursework: Linear Algebra, Econometrics, Mathematical Economics, Economic Modeling