Yishen Liu

Personal data

Place and Date of Birth:	China | April 18, 1985
Visa type:	H1-B
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Professional Experience

Jan 2018- present	Quantitative Modeler III, Model Risk Management, Fannie Mae
Jun 2017- Jan 2018	Economist II, Model Risk Management, Fannie Mae
Jan 2015- Jun 2017	Economist I, Model Risk Management, Fannie Mae

My main duty at Fannie Mae is model validation of loss forecast model(loan transition and severity) in Single Family area. The validation scope includes modeling methodology and the corresponding usages in various business forecasts (DFAST, MST, CF).

- Experienced in the area of credit risk modeling (Loss Forecast Model, prepay, default, and delinquency transitions, etc.). This model (implemented in SAS) is the main application (high risk rating) for Fannie Mae SF book profile and loss forecast during stress testing. I conducted full scope validation for all components (acquisition, transition, and severity) of this model and is responsible for model performance tracking and scorecard reporting at MRM. In addition, I also conducted full scope model validation for Fannie Mae Public Mortgage Cash Flow Model (implemented in R, medium risk rating) which is a loan transition model developed based off Fannie Mae public loan performance data and capable of producing loan level cash flow using Monte Carlo simulation methods.
- Experienced in the area of Financial Forecast under stress scenario. I participated several past reviews of stress testing (DFAST and MST) at Fannie Mae and acted as the main contributor for DFAST 2018 review. The review activities includes assumption validation, sensitivity tests, and benchmark analysis, etc. I am familiar with the forecasting processes on both revenue forecast (Gfee remitted/amortization) and credit expense forecast (allowance/credit loss).
- Experienced in Fannie Mae Acquisition Credit Index model. This model (implemented in SAS, high risk rating) is used to assess credit risk for all single family acquisitions and used for risk limit setting purposes. I conducted full scope model validation for this model and am familiar with the underlying neutralization process and tail risk cutoff threshold setting process.
- Familiar in the area of credit portfolio management (REO pricing, Rep & Warrant, Housing goals, Liquidation Decision Module). I conducted various model validations and assessments in the area of loss mitigation. The main application, Liquidation Decision Module (implemented in SAS, medium risk rating), is used for producing loss neutral amount (LNA) for various disposition channels (short sales, third party, deed-in-Lieu). I am also responsible for the model performance tracking and scorecard reporting for credit portfolio management at MRM.

- Familiar in the area of collateral valuation (TB-RTI/AVM/FAVM). I conducted full scope model validation for FAVM (implemented in SAS, high risk rating) and TB-RTI (implemented in SAS, high risk rating) and main components in AVM (implemented in SAS, high risk rating).
- Fannie Mae Distressed Property Valuation Machine Learning Competition (Hackathon) Second Place. During this company-wide internal competition, I constructed a ML model predicting future REO sales price (using R and Python).
- Selected as a member of Fannie Mae *Risk Think Tank* and conducted *top risks assessment 2018*. During this project, I worked with a group of members coming from various departments within Enterprise Risk Management (ERM). We conducted risk assessment for potential loss and damage to Fannie Mae owned properties (both single family and multi-family) due to hypothetical hurricane events along the fault line on the west coast.

Jan 2014-Jan 2015 Consultant, Development Economic Research Group (DECRG), World Bank, Task Team Lead: Harris Selod

- Provided research assistance to senior economists, including data and regression analysis, drafting reports, and providing literature summary.
- Analyzed poverty and domestic consumption data in Africa.

Education

The George Washington University, Washington DC

Ph.D., Economics, May 2016

University at Buffalo, Buffalo, NY

M.S., Economics, May 2010

Publication

"Housing Consumption Declines with Income in the Open-city Model: Theory and Empirical Evidence", *Journal of Regional Science*, 2017, Vol.57 (5): 884-903.

"Transport Policies and Development", with Uwe Deichmann (World Bank), Claudia Berg (World Bank), and Harris Selod (World Bank), *The Journal of Development Studies*, 2017, Vol.53 (4): 465-480.

"Estimating the Elasticity of Supply of Housing Space Rather than Units", *Regional Science and Urban Economics*, 2018, Vol.68 (Jan): 1-10.

"Foreclosure Externalities: Have We Confused the Cure with the Disease?", with Anthony Yezer (George Washington University), *Real Estate Economics*, accepted in March 2019.

Computer Skills

Application: Stata, Eviews, MS Office/BI tools, Tableau, Unix/Linux systems
Programming: SAS, R, Matlab, LaTeX, SQL, Python, VBA