

Penghao Cheng
chengpenghao@lnu.edu.cn

EDUCATION:

University of California Santa Cruz, Santa Cruz, CA

Ph.D. in Economics Program (International Finance)

June 2020

University of San Francisco, San Francisco, CA

M.A. in Economics Program (Finance)

May 2014

Liaoning University, Shenyang, China

Bachelor's Degree: Economics (International Economy and Trade)

July 2011

RESEARCHES & PROJECTS:

An Empirical Study on the Relationship between Chinese households' Default Risk and Risk Aversion

- Evaluated the mortgage default risk of Chinese households with the random forest (SMOTE) method
- Estimated the Arrow-Pratt risk aversion coefficient of Chinese households using life insurance data
- Provided empirical evidence on the relationship between default risk and risk aversion

The Impact of U.S. Interest Rate Changes on Emerging Market Countries

- Decomposed the U.S. interest rate into natural rate & cost-push shocks from a distinct perspective
- Used the new Keynesian model with a working capital under different monetary policy settings
- Employed the Bayesian local projection to explore causal effects (BLP deals with bias–variance tradeoff)

External Shocks under Different Exchange Rate Regimes in Low-income Economies

- Explored the precautionary savings (reserves) against external shocks under different exchange rate regimes
- Utilized the cash-in-advance model to conduct simulations and impulse responses

CNY-CNH Term Spread and Covered Interest Parity Deviation

- Studied the Chinese onshore & offshore term spread differential and the spillover effect of CIP deviations
- Examined the bank's funding strategy in RMB financial markets
- Applied the Bayesian local projection and Koyck model in the empirical analysis

Visualizing Email Data (word clouds and the email participation by organizations over time)

- Collected raw data (>1GB) from Gmane, produced a cleaned-up (10X smaller), and visualized data (D3 JavaScript)

Classifier Visualization Comparison (Logistic, KNN, Decision Tree, Random Forest, SVM, Naive Bayes, MLP)

- Evaluated different models & parameters to get the highest accuracy 0.926 with Random Forest (mushrooms data set)

Relationship between Zillow Rent Indices of CA Cities and Nearby Venues (K-means, DBSCAN)

- Compared 3 cluster labels (564 cities) according to top 10 nearby venues (454 categories) from Foursquare with ZRI
- Found more fast food stores, and restaurants for the common living area (label 0) with affordable rental fees

Financial instrument pricing and portfolio risk management (stocks, ETFs, bonds, futures, options, swaps with structural, ARIMA, VAR, Monte Carlo models, data forecasting, interest rate analysis, portfolio optimization)

EXPERIENCE:

Assistant Professor

The Advanced Institute of Finance and Economics, Liaoning University

Oct. 2021 to Present

- Taught graduate courses: Options&Futures
- Research interests include International Finance, Macroeconomics, and Applied Econometrics

Business Analyst

HelpHalf (ShipSaving)

Sept. 2020 to Feb. 2021

- Used economics theory, econometrics knowledge, and coding skills to solve and analyze company business problem
- Improved business performance through the future trend forecasting, and the competitor analysis with internal and external data (marketing mix modeling)

Teaching Assistant/Graduate Student Researcher

University of California Santa Cruz

Apr. 2015 to Jun. 2020

- Taught sections: Microeconomics, Macroeconomics, Economic Growth, and International Finance
- Researched foreign currency borrowings by firms: a GMM data analysis with the panel data (200MB) from India

Teaching Assistant

University of San Francisco

Aug. 2013 to May 2014

- Tutored graduate courses: Microeconomics, Options&Futures, Math, Econometrics, and Derivatives

COMPUTER SKILLS:

- **SQL**
- **Python** (pandas, matplotlib, scikit-learn, scipy, numpy, nltk, networkx)
- **Stata, Matlab, R, SAS**
- **Tableau**
- **Latex, Microsoft office**

LANGUAGES:

English (Fluent)

Mandarin (Native Language)

HONORS:

- **The TA Scholarship of UCSC 2015-2020**
- **Passed CFA level 1 2014**
- **The M.A. Economics Award of USF 2014**
- **The M.A. Economics Scholarship of USF 2013-2014**
- **The winner of the "Sky's the Limit for Your Education" Contest (Microsoft) 2012**
- **Qualification Examination for Tour Guide Certificate (China) 2010**
- **Merit Scholarship of Liaoning University 2008-2010**