Yinjie Yu

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Education

Princeton University — New Jersey, US
Ph.D. candidate, Economics - Finance and Macroeconomics; GPA: 3.89/4.00 — *Aug 2021 – Jul 2026 (expected)*

- **Courses**: Econometrics, Asset pricing, Corporate finance, Monetary economics, Advanced macroeconomics.

Peking University — Beijing, China
B.A. in Economics and Mathematics; GPA: 3.82/4.00 — *Sep 2017 – Jul 2021*

- **Courses**: Machine learning, Mathematical statistics, Real analysis, Data structure, Data science, Stochastic analysis, Functional analysis, Complex analysis, Numerical methods, Abstract algebra, PDE, ODE.
- **Awards:**: 2019 Scholarship for Chinese Economic Research, 2018 Leo KoGuan Scholarship (Top 5%), The Merit Student of PKU (Top 5%), Excellent Student Cadre, Second Prize in 2020 PKU "Tiaozhan Cup" Academic Competition.
- **Honor Thesis:**: *Bounded Rationality, Financial Liberalization, and Welfare.* Excellent Honor Thesis of Beijing City.
- **Experience**: 2019 Fall Exchange Student at UC Berkeley (GPA 4.0/4.0). 2020 Spring Visiting Student at Harvard University (GPA 4.0/4.0). Teaching assistant for Intermediate Macroeconomics (2020 Fall, 2021 Spring)

Experience

Bendheim Center for Finance, Princeton University — Princeton, NJ
Research Assistant to Prof. **Moritz Lenel** *(Reference)* — *Oct 2021 –*

- **Monetary Policy, Segmentation, and the Term Structure**: Solved bond pricing PDEs (extension to Vasicek model) with arbitrager's time-varying risk aversion using machine learning algorithms (based on Tensorflow).
- Used neural network to approximate bond yield curve. Update parameters using automatic differentiation to minimize the PDE residual loss with dynamic sampling according to local loss. Used the updated neural network is to update the pricing PDE where numerical integration is involved.
- **Monetary Policy, Redistribution, and Risk Premia**: Solved the global solution to a DSGE model with heterogeneous agent and portfolio choice problem in state space using Julia. Numerical techniques include Smolyak sparse grid algorithm, Gaussian-Hermite integral, Brent root finder, and value function iteration. Ran simulations and made figures for results.

Department of Economics, UC Berkeley — Berkeley, CA
Research Assistant to Prof. **Benjamin Schoeder** *(Reference)* — *Oct 2019 – May 2020*

- Developed an extension of the DMP model (labor search in macroeconomics) with financial constraints and wage rigidity.
- Derived first order conditions and the closed-form equilibrium wage expressions under Nash Bargaining.
- Calibrate model parameters targeting empirical moments, e.g., average wage sensitivity to cash flow shocks. Simulated model's response to various shocks with occasionally binding financial constraints in Dynare. Made summary tables and figures for simulated results and empirical evidence using Matlab.

GF Securities Co., Ltd. — Shanghai, China
Research assistant, Research Center — *Jun 2020 – Sep 2020*

- Wrote analytical reports on various macroeconomic topics including: the growth effect of infrastructure construction industry using I/O matrix calculation, PBOC monetary operations (LPR) and announcements, the framework of Chinese fiscal system, analysis of the global value chain trough the world I/O table, analysis of newly released macro data, e.g., PPI and CPI anomalies, private financing regulation and real estate market evolution, monetary system of Hong Kong, corporate bond default risk analysis, the global value chain of the automobile and consumer electronics industry.

Working Paper

- **A Model of Optimal QE and QT with Segmented Bond Market and Liquidity Regulations**: Optimal asset purchase and exit policy under ample-reserves system with new liquidity regulations. DSGE model.

Leadership

Student Union of National School of Development, Peking University — Beijing, China
Minister, Department of Academics — *Sep 2018 – Jun 2019*

- Organized monthly reading groups, schemed the Chinese Youth Economic Forum (a national research conference).

Additional Information

- **Programming Skills**: Python (TensorFlow), Julia, MATLAB, Stata, C++.
- **Language**: English: TOFEL 110 (Speaking 25); GRE V157 Q170 AW4.5. Chinese Mandarin: Native. Japanese: Intermediate.
- **Relevant Awards**: Honorable Mention in 2020's Mathematical Contest in Modeling; First Prize in High School National Mathematics Competition, 2015 and 2016.
- **Interests**: Basketball, Photography (portfolio), Piano (since 6, choir accompanist).