Harry Li

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EDUCATION

Imperial College London   London, United Kingdom
M.Sc. in Applied Mathematics; Distinction   *Oct 2021 – Oct 2023, Part-time*

The London School of Economics and Political Science   London, United Kingdom
M.Sc. in Econometrics and Mathematical Economics; Distinction   *Sep 2019 – June 2020*

The London School of Economics and Political Science   London, United Kingdom
B.Sc. in Economics; Distinction   *Sep 2016 – June 2019*

WORK EXPERIENCE

Bank of England   London, United Kingdom
Lead Policy Analyst, Financial Stability Strategy & Risk, Stress Testing Division   *Jan 2023 – Present*

Bank of England   London, United Kingdom
Policy Analyst, Financial Stability Strategy & Risk, Macro-financial Risk Division   *Sep 2020 – Dec 2022*

Bank of England   London, United Kingdom
Postgraduate Intern, Financial Stability Strategy & Risk, Macro-financial Risk Division   *June 2019 – Aug 2019*

RESEARCH

Modelling life-cycle consumption and housing demand   Bank of England
Working paper with Matt Waldron   *Present*
- We build and estimate a dynamic stochastic general equilibrium model (DSGE) with overlapping generations to model household life-cycle consumption and housing demand.
- Developed a deep reinforcement learning algorithm using Python and TensorFlow to estimate the household's optimal policy functions in this heterogeneous-agent DSGE model with occasionally binding constraints.
- Developed numerical algorithms to solve the model using adaptive sparse grids in MATLAB.
- Used the model to study the impact of macroprudential policies on the housing market and the macroeconomy.

Stochastic Differential Equation Models for Systemic Risk   Imperial College London
Master's thesis, supervised by Prof. Grigorios A. Pavliotis and Dr. Anastasia Borovykh   *Sep 2023*
- We use continuous-time coupled stochastic diffusion models to model the interbank market for liquid reserves. We incorporate interbank network structures and study the collective behaviour of banks and systemic risk.
- Applied numerical methods to solve the coupled Stochastic Differential Equations (SDEs) using MATLAB.
- Developed a deep reinforcement learning algorithm using Python and TensorFlow to solve the Nash equilibrium of an interbank game, where banks chose the optimal rate at which they borrow and lend from a central bank.

AWARDS & ACHIEVEMENTS

The Excellent MSc in Applied Mathematics Project award: Departmental award for scoring 90% on my Master's thesis on "Stochastic Differential Equation Models for Systemic Risk".

England Junior Chess Team: Represented England in international tournaments in the Netherlands, Poland, Czech Republic and South Africa. Finished 55th in the Under 16s World Youth Chess Championship in Durban, South Africa.

Piano: Achieved Grade 7 with distinction from the Associated Board of the Royal Schools of Music (ABRSM).

LANGUAGES & IT SKILLS

Languages: English (native), Mandarin (limited working proficiency)
Programming Languages: R, Python, MATLAB, LaTeX
Programming Tools: Git, R Markdown, Tidyverse, NumPy, Keras, TensorFlow, Beamer
IT Skills: Windows, Visual Studio Code, Microsoft Office, GitHub