Haoyu Sheng

PhD Student · Economics

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Education

Brown University *Providence, RI*
Ph.D student in Economics *2020 - Present*
- Completed Coursework: Macro-Finance: Behavioral and Rational, Topics in Macro and Monetary Economics, Industrial Organization
- Current Coursework: Macroeconomic Slack, Advanced Topics in Applied Macroeconomics, Economic Growth and Comparative Development

Williams College *Williamstown, MA*
B.A. in Computer Science and Economics with Highest Honors *2016 - 2020*
- Advisor: Professor Ashok Rai
- Thesis: The Certification Game

Research Experience

2021-2022 **Research Assistant for Professor Amy Handlan,** Brown University
- Built audio deep learning models to classify gender, tone, and seniority for speakers in online economic seminars.

2021 **Research Assistant for Professor Pascal Michaillat,** Brown University
- Built an interactive policy tool that calculates optimal public expenditure under inefficient unemployment. It can be found here.

2019-2020 **Research Assistant for Professor David Y. Yang,** Harvard University
- Analyzed the evolution of newspaper images in China by applying computer vision methods to webscraped newspaper PDF files.

2019 **Research Assistant for Professor Kenneth Kuttner,** Williams College
- Measured the effectiveness of macroprudential policies for 57 economies by calculating the portion of policy actions counter-cyclical to property prices and housing credit.

Teaching Experience

Spring 2022 Machine Learning, Text Analysis, and Economics (Undergraduate), TA for Professor Amy Handlan, Brown University
Spring 2020 Game Theory (Undergraduate), TA for Professor Ashok Rai, Williams College
Fall 2019 Global Macro Instability and Finance (Undergraduate), TA for Professor Gregory Phelan, Williams College
Fall 2017, Spring 2019 Intermediate Micro (Undergraduate), TA for Professors Ashok Rai and Stephen Sheppard, Williams College

Honors & Awards

2020 Graduate Fellowship, Brown University
2019 Carl Van Duyne Prize in Economics , Williams College
2018 Class of 1960 Scholar in Computer Science, Williams College
2018 Class of 1960 Scholar in Economics, Williams College

Work In Progress

"Gender and Tone in Online Economics Presentations: Audio Analysis with Machine Learning," with Amy Handlan and Emily Moschini
"The Certification Game" (Undergraduate Thesis)
Winner of the Carl Van Duyne Prize in Economics

Other Publications

"When Rooks Miss: Probability through Chess," with Steven Miller and Daniel Turek
The College Mathematics Journal, 2021

"Assessing Post-hoc Explainability of the BKT Algorithm," with Iris Howley and Tongyu Zhou
2020 AAAI/ACM Conference on AI, Ethics, and Society (AIES'20), 2020

"Knowledge Distillation for Recurrent Neural Network Language Modeling with Trust Regularization," with Yangyang Shi, Mei-Yuh Hwang, and Xin Lei
ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2019

Other Experience

Fall 2018	Computer Science Research Assistant for Professor Iris Howley,	Williams College
Summer 2018	Research Intern,	Mobvoi AI Lab
Summer 2017	Summer Quant Analyst,	Hutchin Hill Capital

Skills

Languages	Chinese, Cantonese
Programming Languages	R (tidyverse), Python (pandas, nltk, tensorflow, and librosa), Stata, Java, JavaScript, C++, C