

HAOYU SHENG

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EDUCATION

Williams College, Williamstown, Massachusetts

August 2016 - Present

Bachelor of Arts in **Economics** and **Computer Science**

Overall GPA: 3.84/4.00, Econ Major GPA: 3.95, CS Major GPA: 3.90

Relevant Coursework: Applied Real Analysis, Abstract Algebra, Linear Regression and Forecasting, Probability, Measure Theory, Natural Language Processing, Price and Allocation Theory, Game Theory, Global Macro Instability and Finance, Monetary Economics, Financial Crises: Causes & Cures, Developing Country Macroeconomics

RELEVANT WORK EXPERIENCE

Economics Research Assistant, Harvard University

June 2019 - Present

- Assisting David Y. Yang and Professor Yanhui Wu with analyzing the advancement of newspaper multimedia in China and examining whether images evolve at varying paces for different news categories.
- Webscraping PDF files for major Chinese newspapers from 2003 to 2012 and applying computer vision methods to gather information such as color, size, and caption for newspaper images.

Economics Research Assistant, Williams College

June 2019 - Aug 2019

- Assisted Professor Kuttner with measuring the effectiveness of macroprudential policies for 57 economies by calculating the portion of policy actions counter-cyclical to property prices and housing credit.
- Proposed a new business cycle identification method that introduces the "zone of inaction," a period that is neither "boom" nor "bust" and in which governments will not take action. The proposed method allowed for a more realistic estimation for government policy-making processes.

Computer Science Research Assistant, Williams College

Sept 2018 - Jan 2019

Williamstown, Massachusetts

- Created interactive explainables for Bayesian Knowledge Tracing and analyzed its interpretability with Professor Iris Howley.

Research Intern, Mobvoi Inc AI Lab

June 2018 - Aug 2018

Redmond, Washington

- Implemented language model knowledge distillation techniques to reduce size and improve portability for large speech recognition deep learning models.

Teaching Assistant, Williams College

Aug 2017 - Present

Williamstown, Massachusetts

- Global Macro Instability and Finance (Aug 2019 - Present): Hosted sessions to help students understand concepts in financial economics, such as leverage cycle and OLGs, and graded assignments.
- Other courses TA'ed include: Algorithms Design & Analysis (Spring 2018 & Fall 2018), Price and Allocation Theory (Fall 2017 & Spring 2019).

PUBLICATIONS

Shi, Y., Hwang, M., Lei, X., and **Sheng, H.** (2019). Knowledge Distillation for Recurrent Neural Network Language Modeling with Trust Regularization. In *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 7230–7234

Howley, I., **Sheng, H.**, and Zhou, T. (2020). Assessing Post-hoc Explainability of the BKT Algorithm. In *2020 AAAI/ACM Conference on AI, Ethics, and Society (AIES'20)*

Holmes, W., Bektik, D., Woolf, B., Bosch, N., Doroudi, S., Howley, I., Sharples, M., **Sheng, H.**, and Zhou, T. (in review). Ethics in AIED: Who Cares? In *Journal of Learning, Media, and Technology*

Miller, S., **Sheng, H.**, and Turek, D. (in review). When Rooks Miss: Probability through Chess. In *The College Mathematics Journal*

AWARDS

Carl Van Dyne Prize in Economics (awarded to distinguished thesis candidates in Economics) 2019

Class of 1960 Scholar in both Computer Science and Economics 2018-2019

EXTRACURRICULAR

Vice President of Academic Affairs, College Council Feb 2019 - Present

- Responsible for student government policy and programming initiatives in areas of academic and intellectual life.

- Serve on the Committee on Educational Affairs and represent student voice on academic issues.

Club Men's Water Polo Aug 2016 - Present

- Compete in intercollegiate water polo tournaments.

- Served as team treasurer in the 2018-2019 academic year and was in charge of team traveling finances.

SKILLS

Languages: Native in Mandarin and Cantonese.

Programming Languages: R, Python, Stata, RATS, Java, JavaScript, C++, C, ML, Scala, Lisp.

Github Repo: <https://github.com/hs97>