Sylvia CHU

October 2026

Columbia University
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Research Interests

Economics of Artificial Intelligence; Information Economics and Data Accumulation; Technology Adoption; Market Design and Algorithmic Decision-Making

Education

Columbia University — New York, NY
M.S. in Management Science and Engineering — Aug 2025–Jun 2027 (expected)

Moscow State University — Moscow, Russia
B.A. in Economics — Aug 2021–Jun 2025
GPA: 5.0/5.0

Shenzhen MSU-BIT University(Joint University of Moscow State University and Beijing Institute of Technology) — Shenzhen, China
B.A. in International Economics and Trade — Aug 2021–Jun 2025
GPA: 3.98/4.00 (top 1%)

Selected Graduate Coursework

Advanced Reinforcement Learning (PhD level); Diffusion Models (PhD level); Foundations of Optimization (PhD level); Information in Financial Markets (PhD level); Stochastic Models; Simulation

Research and Course Projects

Research (Advised by Prof. Laura L. Veldkamp), CBS 2026
Title: The Scale of Data: Information Spillovers and Investment Allocation in the AI Era

Course Project (Advised by Prof. Shipra Agrawal), Columbia University 2026
Title: Fair Commission Design in Digital Platforms

Research (Advised by Prof. Weige Huang), Shenzhen MSU-BIT University 2025
Title: Stock Market Prediction Based on CNN with Attention Mechanism

Technical Skills

Programming: Python (NumPy, pandas, scikit-learn, PyTorch), Stata, LaTeX, Git/GitHub.
Econometrics: Causal inference, Difference-in-Differences (DiD), Double Machine Learning (DML), panel-data econometrics, heterogeneity analysis.
Machine Learning & AI: Deep learning (CNNs, attention mechanisms), natural language processing, text mining, LLM evaluation and fine-tuning, reinforcement learning (Q-learning, GRPO).
Quantitative Methods: Mathematical optimization, stochastic modeling, Markov chains, Monte Carlo simulation, time-series forecasting, statistical arbitrage, financial backtesting.

Working Papers

Chu, S. and Veldkamp, L. L. (2026). The Scale of Data: Information Spillovers and Investment Allocation in the AI Era.
Working paper.
Studies how one firm's AI deployment generates evidence that other firms can use; shows that paying for data fixes whether data are produced but not what is recorded, so deployment-based payment aligns adoption while leaving the data source recording too little.

Chu, S. (2026). Finance-HalluBench: Confidence Calibration in Financial LLMs.
Under review, AAAI 2027 Workshop on Foundation Models and Generative AI for Finance.
Evaluate the confidence–accuracy gap in financial reasoning by large language models; examines overconfidence associated with reinforcement learning from human feedback.

Chu, S. and Huang, W. (2026). Stock Market Prediction Based on CNN with Attention Mechanism.
Submitted to Quantitative Finance.
Develops a hybrid convolutional neural network and attention model to identify temporal patterns and improve stock-index forecasting performance.

Chu, S. and Huang, W. (2025). The Impact of Artificial Intelligence on Green Innovation Based on Double Machine Learning.
Under review at the Journal of Environmental Economics and Management.
Uses text-based AI-adoption measures and Double Machine Learning to estimate effects on green innovation, with attention to heterogeneous firm outcomes and R&D mechanisms.

Professional Experience

Guotai Junan Securities Nov 2024–Jan 2025
Industry Research Analyst Intern

Focused on investment research and sector strategy in electric vehicles, integrating industry intelligence, financial forecasting, and scenario analysis to inform investment decisions.

Accenture Oct 2023–Jan 2024
Strategy Consulting Intern

Conducted competitive intelligence and strategic market analysis for the global tire industry, focusing on market positioning, industry transformation, and international expansion.

GF Securities Jul 2022–Sep 2022
Investment Banking Division Intern

Focused on investment product evaluation, client portfolio analysis, and business development strategy, with an emphasis on sustainable finance and green investment products.

Talks & Presentations

The Macroeconomics of Data: Scale, Product Choice, and Pricing in the Information Age Nov 2026
Doctoral Course Presentation, Information in Financial Markets, Columbia Business School
Paper by Vladimir Asriyan and Alexandre N. Kohlhas. Instructor: Prof. Laura L. Veldkamp.

Learning Dynamics of LLM Finetuning Spring 2026
Doctoral Course Presentation, Diffusion Models, Columbia University
Paper by Yi Ren and Danica J. Sutherland (ICLR 2025). Instructor: Prof. Wenpin Tang.

Honors & Academic Service

First-Class Scholarship, Shenzhen MSU-BIT University; **Excellent Graduate** (2025); Reviewer, ACM International Conference on AI in Finance (ICAIF).

Languages & Standardized Tests

Chinese(Native); English; Russian. **GRE:** 332; **TOEFL:** 108; **Russian TORFL:** Level 6