

David Childers

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Citizenship: United States

Positions Held:

2016-present Assistant Professor of Economics, Tepper School of Business, Carnegie Mellon
2023-2024 Senior Data Scientist, Abridge

Education:

2016 PhD, Economics, Yale University, New Haven, CT “Computational Methods for Economic Models with Function-Valued States”
(Peter C.B. Phillips, Co-chair, Anthony A. Smith Jr. Co-chair, Costas Arkolakis)
2013 M.Phil., Economics, Yale University, New Haven, CT
2011 M.A., Economics, Yale University, New Haven, CT
2009 B.S.F.S., International Economics, Georgetown University, Washington, DC

Fields of Concentration

Econometrics (Time Series, Causal Inference, Machine Learning)
Macroeconomics
Computational Economics

Teaching:

Econometrics II (73-374) (Fall 2016-2022)
Econometrics I (PhD) (47-811) (Fall 2017-2022)
Computational Methods for Economics (47-805) (Spring 2018-2020, 2023)
Forecasting for Economics and Business (Spring 2019-2023)
Causal Econometrics (47-873) (Fall 2021)

PhD Students Advised:

Eungsik Kim (committee member) (PhD 2019)
Wenting Yu (committee member) (PhD 2020)

Jiayi Li (committee member) (PhD 2020)
Bill Bednar (committee member) (PhD 2021)
Xuege Zhang (committee member) (PhD 2022)
Cameron Fen (University of Michigan, committee member) (PhD Expected 2024)
Jaepil Lee (committee member) (PhD Expected 2025)
Shantanu Gupta (Computer Science, co-chair) (PhD Expected 2025)

Publications:

“Timing as an Action: Learning When to Observe and Act” with Helen Zhou, Audrey Huang, Kamyar Azizzadenesheli, and Zachary Lipton *AISTATS 2024*

“Local Causal Discovery for Estimating Causal Effects” with Shantanu Gupta and Zachary Lipton *Conference on Learning and Reasoning 2023*

“Estimating Treatment Effects with Observed Confounders and Mediators” with Shantanu Gupta and Zachary Lipton *UAI 2021*

“Efficient Online Estimation of Causal Effects by Deciding What to Observe” with Shantanu Gupta and Zachary Lipton, *NeurIPS 2021*

Working Papers:

“Differentiable State Space Models and Hamiltonian Monte Carlo Estimation” with Jesús Fernández-Villaverde, Jesse Perla, Chris Rackauckas, and Peifan Wu (Revise and Resubmit, *Journal of Econometrics*)

“Solution of Rational Expectations Models with Function Valued States” (Revise and Resubmit, *Econometrica*)

“Automated Solution of Heterogeneous Agent Models”

“Perturbation Methods for Incomplete Markets Economies” with Keshav Dogra

Referee Service:

Journal of Econometrics, Journal of Applied Econometrics, Bulletin of Economic Research, Macroeconomic Dynamics, Operations Research, Econometrica, Management Science, Review of Economics and Statistics, Econometric Theory, Journal of the American Statistical Association, Conference Learning and Reasoning, Economics Letters

Grants:

“DTIC: Robust and Fair AI Systems in Dynamic Environments” **PwC** April 2022 - June 2023 (\$367,524) (Principal Investigator, with Zachary Lipton, Andrej Risteski, and Hoda Heidari, SCS, Carnegie Mellon)

“How Local Policies drive National Charger Inequality: The Impact of Driver Behavior on Charging Infrastructure” **Sloan Fellowship** (Principal Investigator, with Venkat Viswanathan, Engineering, Carnegie Mellon)

Presentations:

2016: University of Illinois Urbana-Champaign, Carnegie Mellon University, UC San Diego, Chicago Fed Computational Conference, Society for Economic Dynamics, Stanford Institute for Theoretical Economics ‘Computational Methods for Dynamic Economies and Games’, University of Pennsylvania

2017: Indiana University, Federal Reserve Bank of New York

2018: Midwest Macro

2019: Society for Economic Dynamics, New York University, Boston University, Barcelona GSE Summer Forum Workshop in ‘Machine Learning for Economics’

2020: American Economic Association, University of British Columbia

2021: China International Conference on Macroeconomics, Society for Economic Dynamics, Georgetown University, NeuRIPS

2022: University of Colorado Boulder, Penn State, University of Michigan, NeuRIPS

2023: Brown University, FRB Philadelphia

Service – Conference Organizer:

2017: Midwest Macro

2018-2022: Society for Economic Dynamics

Programming Languages:

Julia, R, Python, Matlab, Stata, C++

Languages:

English (native), Spanish, Mandarin (basic)