

# Jesse Perla

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CONTACT INFORMATION University of British Columbia  
Vancouver School of Economics  
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*Email:* jesseperla@gmail.com  
<http://jesseperla.com>  
<https://github.com/jlperla/>

CITIZENSHIP Canadian, American

INTERESTS Macroeconomics, Machine Learning, Growth, Macro-Development, Bounded Rationality

POSITIONS Associate Professor, UBC Vancouver School of Economics  
Associate Member, UBC Computer Science

OTHER AFFILIATIONS Member, UBC Centre for Artificial Intelligence Decision-making and Action (CAIDA)  
Faculty Affiliate, UBC Institute of Applied Mathematics  
Core Faculty, UBC Centre for Computational Social Science  
Faculty Affiliate, Stone Center for Wealth Inequality

EDUCATION Ph.D., Economics, May 2013  
New York University, New York, NY, USA  
*Fields:* Macroeconomics, Industrial Organization  
*Committee:* Boyan Jovanovic, Thomas J. Sargent, Jess Benhabib  
  
B.Sc. Applied Mathematics, 1997  
Columbia University, New York, NY

PUBLISHED PAPERS Equilibrium Imitation and Growth (with Christopher Tonetti)  
*Journal of Political Economy*, 2014  
  
Catch-up and Fall-back through Innovation and Imitation (with Jess Benhabib and Christopher Tonetti)  
*Journal of Economic Growth*, 2014  
  
Equilibrium Technology Diffusion, Trade, and Growth (with Christopher Tonetti and Michael Waugh)  
*American Economic Review*, 2021  
  
Reconciling Models of Diffusion and Innovation: A Theory of the Productivity Distribution and Technology Frontier (with Jess Benhabib and Christopher Tonetti)  
*Econometrica*, 2021  
  
Eigendecomposition of Tau Matrices and Applications (with Sven-Erik Ekstrom, Carlo Garoni, and Adam Jozefiak)  
*Linear Algebra and Its Applications*, 2021

WORKING PAPERS A Model of Product Awareness and Industry Life Cycles (with Larent Cavenaile, Murat Celik, and Pau Roldan-Blanco)  
*R&R at the Journal of Political Economy*  
  
Commitment and Investment Distortions Under Limited Liability (with Carolin Pflueger and Michal Szkup)  
*R&R at the Journal of Economic Theory*  
  
Differentiable State-Space Models and Hamiltonian Monte Carlo Estimation (with David Childers, Jesus Fernández-Villaverde, Christopher Rackauckas, and Peifan Wu)  
*R&R at the Journal of Econometrics*  
  
Exploiting Symmetry in High-Dimensional Dynamic Programming (with Mahdi Ebrahimi Kahou, Jesus Fernández-Villaverde, and Arnav Sood)  
*NBER Working Paper*

Spooky Boundaries at a Distance: Inductive Bias, Dynamic Models, and Behavioral Macro (with Mahdi Ebrahimi Kahou, Jesus Fernández-Villaverde, Sebastian Gomez, and Jan Rosa)

*NBER Working Paper*

How Inductive Bias in Machine Learning Aligns with Optimality in Economic Dynamics (with Mahdi Ebrahimi Kahou, James Yu, and Geoff Pleiss)

*arXiv Working Paper*

WORKS IN  
PROGRESS

Technology Adoption and the The Big Pull (with Michael Peters)

Solving Dynamic Equilibrium Models with Machine Learning (with Jesus Fernández-Villaverde and Galo Nuño)

GRANTS AND  
AWARDS

Bank of Canada Governor's Award (2021-2022)

SSHRC Insight Grant (2023-2025), \$155,400

*Deep learning methods for solving high-dimensional equilibrium models*

SSHRC Insight Development Grant (co-applicant 2021-2022), \$58,635

*Monopsony or Peer Effects? Disentangling the Importance of Firms in the Labor Market*

SSHRC Insight Grant (2018-2021), \$159,183

*Coordination frictions in macro-development: spatial equilibrium, technology traps, and industrial policy*

SSHRC Insight Development Grant (2018-2020), \$68,834

*Debt Overhang and Over-Investment*

SSHRC Insight Development Grant (2015-2017), \$43,000

*Why Doesn't Technology Diffuse through Migration?*

Hampton Grant (2014-2015), \$22,000

*The Growth Dynamics of Innovation, Diffusion, and the Technology Frontier*

BOOKS

Quantitative Economics with Julia (with Thomas J. Sargent and John Stachurski)

Online textbook: <https://julia.quantecon.org/>

QuantEcon DataScience (with Chase Coleman, Spencer Lyon, and Collaborators)

Online textbook: <https://datascience.quantecon.org/>

SEMINARS,  
CONFERENCES,  
AND VISITING  
SCHOLAR

2024: ACM-EC Workshop Organizer

2023: Richmond Fed, Western, Future of AI and Economics at HBS

2022: Bank of Canada, Uppsala, Peking University

2021: AEA, Canadian Macro Study Group, Bank of Canada Fellowship Learning Exchange, Boston College, Queens, Georgetown, Boston University, UCL

2020: HEC Paris

2019: SED (Organizing Committee), NBER Summer Institute (discussant)

2018: University of Pennsylvania, University of Toronto Rotman, Yale (Cowles Visiting Scholar), SED (Organizing Committee)

2017: UCSD, Stanford, Philadelphia Fed, Minneapolis Fed (Visiting Scholar), WashU Mini-Conference on Macro-Development, Minnesota Macro Theory, St. Louis Fed

2016: Simon Fraser University

2015: UC Berkeley, University of Pennsylvania, University of Pennsylvania Wharton, Columbia University, AEA, Cowles Foundation (discussant), Nottingham University Conference on Firm and Technology Dynamics

2014: San Francisco Federal Reserve, Cowles Foundation (discussant)

2013: UCLA, UCSD, Minnesota

TEACHING  
EXPERIENCE

University of British Columbia, Vancouver, BC, Canada

ECON526 - Quantitative Economics with Data Science Applications (masters)

ECON622 - Computational Economics with Data Science Applications (PhD)

Created course and moved to approval by the UBC Senate

ECON323 - Quantitative Economic Modeling with Data Science Applications (undergraduate)

Created course and moved to approval by the UBC Senate

ECON302 - Intermediate Macroeconomics (undergraduate)  
ECON307 - Honors Intermediate Macroeconomics (undergraduate)  
ECON408 - Computational Methods in Macroeconomics (undergraduate)  
Created course and moved to approval by the UBC Senate  
ECON546 - Monetary Theory and Policy (graduate)

SERVICE

University of British Columbia, Vancouver, BC, Canada  
Computer Lab Committee  
Comps Committee  
Executive Committee  
Instructor Recruitment Committee  
Recruitment Committee  
Bank of Canada Governor's Challenge (Undergrad Team won 1st Place)  
Centre for Innovative Data in Economics Research (CIDER) Board Member  
VSE Director Selection Committee  
Computer Science Recruitment Committee  
Advisory Committee of the SciML (<https://sciml.ai/>) organization

PHD STUDENT  
PLACEMENTS

University of British Columbia, Vancouver, BC, Canada  
Colin Caines, Committee Member (Placed at Federal Reserve Board)  
João Alfredo Galindo da Fonseca, Committee Member (Placed at Université de Montréal)  
Sev Hou, Advisor (Placed at Chinese University of Hong Kong, Shenzhen)  
Dongxiao Zhang, Committee Member (Placed at Veeva Systems)  
Nadhanael Gemaliel Vimala, Committee Member (Reserve Bank of India)  
Mahdi E. Kahou, Supervisor (Placed at Bowdoin College)  
Ali Karimarad, Committee Member (Placed at University of Washington)  
Alejandro Roja-bernal, Committee Member (Placed at University of Hawaii)  
Josh Catalan, Committee Member  
Jan Rosa, Committee Member  
Giulia Lo Forte, Committee Member  
Neil Newman (Computer Science), Committee Member  
Betty Shea (Computer Science), Committee Member

REFEREE

Econometrica, American Economic Review, Quarterly Journal of Economics, Journal of Political Economy, Review of Economic Studies, AEJ: Macro, Journal of Economic Growth, Journal of International Economics, International Economic Review, Review of Economic Dynamics, European Economic Review, Journal of Economic Theory, Theoretical Economics, Journal of Development Economics, Canadian Journal of Economics, Journal of Economic Literature, Macroeconomic Dynamics, Journal of Economic Behavior & Organization

OTHER  
EXPERIENCE

CTO/Founder/Director of Research/Software Engineer at technology firms (1995-2006)