

Bryan R. Routledge

Tepper School of Business,
Carnegie Mellon University,
5000 Forbes Ave,
Pittsburgh, PA 15213

routledge@cmu.edu
<http://sulawesi.tepper.cmu.edu>
<http://bit.ly/bryanroutledge>
Phone: 412.268.7588

March 2021

Education

- 1996 *Ph.D., Finance*,
University of British Columbia, Vancouver, B.C.
“Finance Theory Applications of Learning, Evolution and
Self-Organization” (Alan Kraus (Chair), Jonathan Berk,
Kenneth R. MacCrimmon, Michele Piccione, Vasant Naik)
- 1987 *Bachelor of Commerce (with Honours)*,
Queen’s University, Kingston, Ontario

Employment

- 2002 – Associate Professor of Finance,
Carnegie Mellon University
- 1998 – 1999 B.P. America Faculty Development Chair,
Carnegie Mellon University
- 1995 – 2002 Assistant Professor of Finance
Carnegie Mellon University
- 1987 – 1990 Accountant
Price Waterhouse, Calgary, AB, Canada

Affiliations and Professional Service

- 2018 – Research Affiliate, Cylabs
Carnegie Mellon University
- 2013 – Secretary/Treasurer,
Western Finance Association
- 2004 – Associate Editor,
Journal of Finance and Quantitative Analysis
- 2010 – Associate Editor,
Critical Finance Review
- 2001 – 2009 Associate Editor,
Management Science (Finance)
- 1998 – Faculty, Center For Computational Finance,
Carnegie Mellon University
- 1990 – Chartered Accountant,
Canadian and Alberta Institutes of Chartered Accountants

Awards

- 2017 Best Discussant
ASU Sonoran Winter Finance Conference
- 2013 The International Institute of Forecasters and SAS Award,
“Predicting Mergers Using Text,” with Noah Smith)
- 2008 Best Papers on Capital Market Research,
Northern Finance Association, “Who Holds Risky Assets”
with David Backus and Stanley Zin
- 2004 George Leland Bach Excellence in Teaching Award,
Carnegie Mellon University

- 2004 GSAM Award for the Best Paper on Investments, Western Finance Association, “Generalized Disappointment Aversion and Asset Prices”, with Stanley Zin
- 2000 Roman Weil Research Prize, Carnegie Mellon University, “Equilibrium Forward Curves for Commodities” with Duane Seppi and Chester Spatt
- 1998 George Leland Bach Excellence in Teaching Award, Carnegie Mellon University
- 1998 First Prize– Roger Murray Prize Competition, The Institute for Quantitative Research (“Q-Group”), “Equilibrium Forward Curves for Commodities” with Duane Seppi and Chester Spatt

Grants

- 2020 PNC Center for Financial Services Innovation “Exchange Design: Evidence from Cryptocurrency Exchanges,” (with Nicolas Christian and Ariel Zetlin-Jones)
- 2020 Ripple University Blockchain Initiative “Currency Stability Using Blockchain Technology,” (with Ariel Zetlin-Jones)
- 2019 PNC Center Research Assistantships “Settlement and Blockchain Equilibria ” (with Zahra Ebrahimi and Ariel Zetlin-Jones)
- 2018 PNC Center for Financial Services Innovation “Currency Stability Using Blockchain Technology” (with Ariel Zetlin-Jones)
- 2013 Alfred P. Sloan Foundation “Identifying Corporate Entities and Relationships from Text” (with Noah Smith)
- 2013 Google Research Grant “Utility-Based Language Models” (with Noah Smith)

- 2011 Google Research Grant “Economic Data: Hard and Soft” (with Noah Smith)
- 2009 Carnegie Mellon Berkman Faculty Development Grant “Predicting with Text”
- 2008 Institute for Quantitative Research (“Q-Group”) “Text Based Portfolio Choice”
- 2007 Center for Research and Technology (CART) Carnegie Mellon “Data and Information”
- 1999 National Science Foundation (Decision Risk and Management), “Cross-Commodity Equilibrium Pricing: Theoretical Implications and Empirical Tests of Forward and Option Prices,” with Duane Seppi and Chester Spatt
- 1998 Carnegie Bosch Institute, Doctoral Fellowship Award in International Management: Rafael Mendible, “Dynamic Equilibrium for International Oil Markets”
- 1997 Institute for Quantitative Research (“Q-Group”), “Equilibrium Forward and Option Pricing for Commodities” with Duane Seppi and Chester Spatt
- 1997 Carnegie Mellon Faculty Development Fund, “Theoretical And Empirical Investigation of Auctions for Industrial Parts”

Publications

Bryan R. Routledge and Ariel Zetlin-Jones. Currency stability using blockchain technology. *Journal of Economic Dynamics*, forthcoming, January 2021

Kyle Soska, Jin-Dong Dong, Alex Khodaverdian and Ariel Zetlin-Jones, Bryan Routledge, and Nicolas Christin. Towards understanding cryptocurrency derivatives: A case study of bitmex. In *Proceedings of the 30th*

international conference on World Wide Web, 2021

Tae Wan Kim, Jooho Lee, Joseph Xu, and Bryan R. Routledge. Are data subjects investors? *Berkeley Business Law Journal*, forthcoming, 2020

Bryan R. Routledge. Machine learning and asset allocation. *Financial Management*, 48(4):1069–1094, 2019

Yongjin Kim and Bryan R. Routledge. Does macro-asset pricing matter for corporate finance? *Critical Finance Review*, Forthcoming, 2019

Tae Wan Kim and Bryan R. Routledge. Informational privacy, a right to explanation, and interpretable ai. In *2018 IEEE Symposium on Privacy-Aware Computing (PAC)*, pages 64–74. IEEE, 2018

Jaime Casassus, Pierre Collin-Dufresne, and Bryan Routledge. Equilibrium commodity prices with irreversible investment and non-linear technologies. *Journal of Banking and Finance*, 95:128–147, October 2018

Bryan R. Routledge. Comments on: Big data in finance and the growth of large firms, by Juliane Begenau & Maryam Farboodi & Laura Veldkamp. *Journal of Monetary Economics*, 97:88 – 90, 2018

Yanchuan Sim, Bryan Routledge, and Noah A. Smith. Friends with motives: Using text to infer influence on scotus. In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*, pages 1724–1733, Austin, Texas, November 2016. Association for Computational Linguistics

Kazuya Kawakami, Chris Dyer, Bryan Routledge, and Noah A. Smith. Character sequence models for colorful words. In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*, pages 1949–1954, Austin, Texas, November 2016. Association for Computational Linguistics

Dan Jurafsky, Victor Chahuneau, Bryan R. Routledge, and Noah A. Smith.

Linguistic markers of status in food culture: Bourdieu's distinction in a menu corpus. *Cultural Analytics*, October, 2016

Dani Yogatama, Bryan R Routledge, and Noah A Smith. A sparse and adaptive prior for time-dependent model parameters. In *Proceedings of the NIPS Workshop on Time Series*, Montreal, Québec, December 2016

Yanchuan Sim, Bryan Routledge, and Noah A. Smith. A utility model of authors in the scientific community. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*, pages 1510–1519, Lisbon, Portugal, September 2015. Association for Computational Linguistics

Dan Jurafsky, Victor Chahuneau, Bryan R Routledge, and Noah A Smith. Narrative framing of consumer sentiment in online restaurant reviews. *First Monday*, 19(4), 2014

Yanchuan Sim, Bryan Routledge, and Noah A Smith. The utility of text: The case of amicus briefs and the supreme court. In *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI 2015)*, Austin, Texas, January 2015. AAAI

Acar Tamersoy, Elias Khalil, Bo Xie, Stephen L Lenkey, Bryan R Routledge, Duen Horng Chau, and Shamkant B Navathe. Large-scale insider trading analysis: patterns and discoveries. *Social Network Analysis and Mining*, 4(1):1–17, 2014

Dani Yogatama, Chong Wang, Bryan R Routledge, Noah A Smith, and Eric P Xing. Dynamic language models for streaming text. *Transactions of the Association for Computational Linguistics*, 2:181–192, 2014

Acar Tamersoy, Bo Xie, Stephen L Lenkey, Bryan R Routledge, Duen Horng Chau, and Shamkant B Navathe. Inside insider trading: Patterns & discoveries from a large scale exploratory analysis. In *Proceedings of the 2013 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, pages 797–804. ACM, 2013

Victor Chahuneau, Kevin Gimpel, Bryan R. Routledge, Lily Scherlis, and Noah A. Smith. Word salad: Relating food prices and descriptions. In *Proceedings of the 2012 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning*, pages 1357–1367, Jeju Island, Korea, July 2012. Association for Computational Linguistics

Bryan R. Routledge. Corporate decision-making, net present value, and the environment. In Pratima Bansal and Andrew J. Hoffman, editors, *The Oxford Handbook of Business and the Natural Environment*, chapter 27, pages 502–518. Oxford University Press, New York, 2012

Dani Yogatama, Michael Heilman, Brendan O'Connor, Chris Dyer, Bryan R. Routledge, and Noah A. Smith. Predicting a scientific community's response to an article. In *Proceedings of the 2011 Conference on Empirical Methods in Natural Language Processing*, pages 594–604, Edinburgh, Scotland, UK., July 2011. Association for Computational Linguistics

Bryan R. Routledge and Stanley E. Zin. Generalized disappointment aversion and asset prices. *Journal of Finance*, 65, August 2010

Brendan O'Connor, Ramnath Balasubramanyan, Bryan R. Routledge, and Noah A. Smith. From tweets to polls: Linking text sentiment to public opinion time series. In *Proceedings of the International AAAI Conference on Weblogs and Social Media (ICWSM 2010)*, volume 11, pages 122–129, Washington, DC., May 2010

Shimon Kogan, Dimitry Levin, Bryan R. Routledge, Jacob S. Sagi, and Noah A. Smith. Predicting risk from financial reports with regression. In *Proceedings of Human Language Technologies: The 2009 Annual Conference of the North American Chapter of the Association for Computational Linguistics*, pages 272–280, Boulder, Colorado, June 2009. Association for Computational Linguistics

Bryan R. Routledge and Stanley E. Zin. Model uncertainty and liquidity. *Review of Economic Dynamics*, 12(4):543–566, 2009

David K. Backus, Bryan R. Routledge, and Stanley E. Zin. Recursive preferences. In Steven N. Durlauf and Lawrence E. Blume, editors, *The New Palgrave Dictionary of Economics*. Palgrave Macmillan, Basingstoke, 2008

David K. Backus, Bryan R. Routledge, and Stanley E. Zin. Exotic preferences for macroeconomists. In Mark Gertler and Kenneth Rogoff, editors, *NBER Macroeconomics Annual 2004*, volume 19, pages 319–391. MIT Press, Cambridge, MA, 2005

Bryan R. Routledge and Joachim von Amsberg. Social capital and growth. *Journal of Monetary Economics*, 50, January 2003

Anil Arya, Jonathan Glover, and Bryan R. Routledge. Project assignment rights and incentives for eliciting ideas. *Management Science*, 48:886–899, 2002

Bryan R. Routledge. Genetic algorithm learning to choose and use information. *Macroeconomic Dynamics*, 5(2), April 2001

Bryan R. Routledge, Duane J. Seppi, and Chester S. Spatt. Equilibrium forward curves for commodities. *Journal of Finance*, 60:1297–1338, June 2000

Bryan R. Routledge. Adaptive learning in financial markets. *Review of Financial Studies*, 12(5):1165–1202, 1999

Bryan R. Routledge. Economics of the prisoner’s dilemma: a background. In Peter Danielson, editor, *Modeling Rationality, Morality and Evolution*, volume 7, pages 92–118. Oxford University Press, New York, 1998

Working Papers

Vitaly Meursault, Pierre Jinghong Liang, Bryan R. Routledge, and Madeline Marco Scanlon. Pead. txt: Post-earnings-announcement drift using text. Working Paper, Research Department, Federal Reserve Bank of Philadelphia, March 2021

Zahra Ebrahimi, Bryan Routledge, and Ariel Zetlin-Jones. Getting blockchain incentives right. Carnegie Mellon University Working Paper, December 2019

Steven A. Baker and Bryan R. Routledge. The price of oil risk. Working Paper, February 2017

Bryan R. Routledge, Noah Smith A. Smith, and Stefano Sacchetto. Predicting merger targets and acquirers from text. Working Paper, November 2016

Doctoral Students

2020 Vitaly Merso (Chair)
2020 Tianyi (Robert) Yang (Chair)
2020 Jiayi Li (Co-Chair)
2021 Nikhil Malik
2016 Lili Gao (Chair)
2015 Yongjin Kim (Chair)
2015 Nandana Sengupta
2015 Shutian Zeng
2014 David Schreindorfer (Co-chair)
2013 Steven Baker (Chair)
2009 Fernando Anjos (Chair)
2008 Lulu Zeng (Chair)
2008 Richard Lowery
2007 Anastasiya Ostrovnaya
2004 Sean Crockett
2004 Jaime Casassus
2003 James Thomas
2001 Rafael Mendible
2001 Jacob Obed
2001 Yaniv Grinstein
2000 Sumihiro Takeda
2000 Vivek Ramachandran
1998 Robert Mitchell
1997 Raul Kangro
1997 Jamsheed Shorish

Teaching

Business Science (BA); Asset Management (MSCF); Business Analytics in Finance (MSBA); Venture Capital and Private Equity (MBA); FinTech (MBA); Finance component of “Integrated View of Business” at MBA “Basecamp”; Finance core (MBA); Finance core (MSCF); Financial Economics for Computational Finance (MSCF); Alpha: Trading on Behavioral Finance (MBA); Finance I (Phd); Finance: Preference and Behavior (Phd); Finance: Commodities (Phd); Executive Education (Various custom programs)