Yigit Aydede

Curriculum Vitae

Professor of Economics
Sobey School of Business, Saint Mary's University, Halifax, Canada
(GitHub - Personal Website)

September 2024

Highlights

I hold the Sobey Professor of Economics at Saint Mary's University in Halifax. While my expertise is in Econometrics, I've expanded my research into Machine Learning and Artificial Intelligence, particularly in the analysis of unconventional data with a focus on public policy and healthcare. I am dedicated to teaching data analytics at both the undergraduate and graduate levels.

- Starting March 28 in 2024, by invitation, I am appointed as Scientific Affiliate (Research) at Nova Scotia Health Innovation Hub for 5 years.
- Starting July 1 in 2021, I am awarded Sobey Professorship in economics at Sobey School of Business for 5 years.
- I am a founder member of Research Portal on Machine Learning for Social and Health Policies
- I am selected to the Nova Scotia COVID19 Research Coalition. I've also served at Reimagining the Future for Nova Scotians where academic and community experts are put together to see what opportunities are possible for Nova Scotia after the pandemic.
- My recent book, Machine Learning Toolbox for Social Scientists Applied Predictive Analytics with R, was published from Chapman & Hall/CRC on September 22, 2023.
- My second book (with Dr. M. Yuksel), Causal Machine Learning for Econometrics, is under contract with Taylor & Francis (CRC) and is expected to be published in February 2025.
- I introduced a new course, Introduction to Applied Machine Learning with R in 2019 at SSB, which was the first undergraduate ML course in SMU. I am currently teaching Machine Learning & Artificial Intelligence at the Master of Business Analytics in Sobey School of Business.

Positions and Education

Education

- PhD in Economics, University of Delaware, USA, 2006.
- MBA, University of Delaware, USA, 2004.

Academic Positions

- Sobey Professor - Saint Mary's University 2021 - Present.
- Full Professor - Saint Mary's University 2020 - Present.
- Associate Professor - Saint Mary's University 2012 - 2020.
- Assistant Professor - Saint Mary's University 2007 - 2012.
- Visiting Professor - University of Windsor 2006 - 2007.

Entrepreneurship

I am part of a dynamic team of researchers and students from Saint Mary's University and industry professionals, dedicated to launching several web applications designed to provide comprehensive, data-driven insights into Nova Scotia's real estate market and public safety landscape. Leveraging our AI-driven infrastructure, these platforms will offer users real-time and historical data on property sales, neighborhood dynamics, and crime statistics. Key features include:

- In-depth property reports and housing sale aggregates
- Demographic insights and detailed neighborhood analysis down to street or postal code level
- Public safety trends and crime data for informed decision-making

Our team is currently developing a business plan and marketing strategy, with the goal of launching a start-up in Winter 2025. The target release for the applications is March 2025.

Scholarship

Books

- Machine Learning Toolbox for Social Scientists: Applied Predictive Analytics with R, Taylor & Francis (CRC - October 2023).
- Causal Machine Learning for Econometrics, with Dr. M. Yuksel is under contract with Taylor & Francis (CRC) and is expected to be published in February 2025.
- R & Python Bootcamp for Data Analytics - Online 2022

Refereed Publications

Google Scholar

- Identifying the regional drivers of influenza-like illness in Nova Scotia, Canada, with dominance analysis, *Nature, Scientific Reports*, July 2023
- Speeding up for a son in Turkey. *Canadian Journal of Development Studies.* July 2023.
- Speeding Up for a Son among Immigrants in Canada. *Population Research and Policy Review* May 2022.
- Why does education-specific skill mismatch have no effect on wages in Turkish labor markets? *Applied Economics.* (B.Orbay and N.Erkol). December 2021 (53) 58.
- Assortative Preferences in Choice of Major. *IZA Journal of Labor Economics.* October 2020: 9:1.
- Asymmetric Information and Discount to Foreign-Acquired Education in Canada (Atul Dar). *IZA Journal of Development and Migration.* 2019, 10:2.
- Immigration and Location Choices of Native-Born Workers in Canada. *Papers in Regional Science.* Vol.96(S1) March 2017. 96-S1.
- Is the Lower Return to Immigrants' Foreign Schooling a Post-arrival Problem in Canada? (A. Dar). *IZA Journal of Migration.* 2017. 6:4.
- The Cost of Immigrants' Occupational Mismatch and the Effectiveness of Postarrival Policies in Canada. (A. Dar). *IZA Journal of Migration.* 2016. 5:9.
- Re-employment, Housing Tenure, and Squatter Settlements in Turkey: An Empirical Analysis. *Housing, Theory and Society.* 2016. Vol.33(1).
- Comparison of Economic Benefits of University and Vocational High School Education among Different Majors in Turkey. (B. Orbay) *European Journal of Higher Education.* 2016. Vol.6(2).
- Economic Benefits of Studying Economics in Canada: A Comparison of Wages of Economics Majors with those in Other Disciplines Circa 2005. (A. Akbari) *Canadian Journal of Higher Education.* 2015. Vol.45(4).
- Effects of Immigration on Interregional Population Flows in Canada. *Migration and Development.* 2014. Vol. 3(2).
- Spatial Regularities between Nonimmigrant and Immigrant Numbers in Canada. *Migration Letters.* 2014. Vol.11(1).

- Are the Educational Credentials of Immigrant and Native-Born Workers Perfect Substitutes in Canadian Labour Markets? A Production Function Analysis. (A. Akbari). *Education Economics.* 2013. V.21(5).
- Effects of Immigration on House Prices in Canada. (A. Akbari). *Applied Economics.* 2012. Vol.44(13).
- Parametric Social Security Reforms and Saving: Evidence from Turkey. *Topics in Middle Eastern and Northern African Economies*, September 2011, Vol.13.
- Expected Social Security Wealth Simulations and Implicit Rate of Return Calculation for the Turkish PAYG System. *Journal of Economic and Social Measurement.* 2010. Vol.35.
- Generational Selfishness and Social Security: A Note on a Time-Inconsistency Problem in Parametric Reforms of PAYG. *Journal of Economic Policy Reform.* 2010. Vol.13(1).
- Aggregate Consumption Function and Public Social Security: The First Time-Series Study for a Developing Country, Turkey. *Applied Economics.* 2008. Vol.40(14).

Working Papers

- Native-born-immigrant wage gap revisited: The role of market imperfections in Canada. (Atul Dar), (Canadian Labour Market and Skills Researcher Network) – WP50– 2022.
- Dynamics of Social Mobility during the COVID19 Pandemic in Canada, (M.Yuksel and F.Begolli). *IZA Discussion Papers*, 13376. 06/2020.
- How Big is It? The Cost of Vertical Mismatch in Canadian Labour Markets. (A. Dar). *CLSRN* (Canadian Labour Market and Skills Researcher Network) – WP154 – 07/2015.
- Immigration and Location Choices of Native-Born Workers in Canada. *CLSRN* – WP130 – 03/2014.
- Economic Benefits of Studying Economics in Canada: A Comparison of Wages of Economics Majors with those in Other Disciplines Circa 2005. *CLSRN* – WP109 – 02/2013.
- Intergenerational Transfers and Expectations: A Note on How a Ponzi Scheme Affects Consumption. *NFI* (Networks Financial Institute at Indiana State University) - 2008-WP-11.
- A Dynamic Inconsistency Problem in Optimal Policies of PAYG. *NFI* 2008-WP-07.
- Wealth Creation and Expected Fairness of the Turkish PAYG System. *NFI* 2007-WP-21.
- Social Security, Intergenerational Transfers, and Saving: New Evidence from a Developing Country. *NFI* 2007-WP-6.
- Saving and Social Security Wealth: A Case of Turkey. *NFI* 2007-WP-03.

Work-in-progress

- Diffusion of social norms in India: the case of child marriage. (with Drs. Chatterje, Robitaille, Ditzen)
- Understanding Commmunity-Level Vulnerabilities in Lyme Disease - Nova Scotia (with Dr. Todd Hatchette)
- Causal Predictors of Cancer by Sparsity (SSHRC) (Andrea Guisto, Mutlu Yuksel)
- Predicting Cancer by Using CCHS (with MLportal) – SSHRC/RDC application is accepted.

Conference Papers (Refereed - last 5 years)

- *COMPEI Conference 2024- European Commission* (COunterfactual Methods for Policy Impact Evaluation) "Understanding the dynamics of a viral spread by sparse composite likelihood selection"
- *ALDE 2024 Conference* (Applied Economics Meeting) "Application of Composite Likelihood Selection in Economics."
- *EUHEA 2024 Conference* (European Heath Economics Association) "Understanding community-level vulnerabilities in Lyme disease - Nova Scotia."
- *ECOMOD 2023* EcoMod2023 International Conference on Economic Modeling and Data Science. Graphical Network Analysis by sparse composite likelihood selection.
- *EUHEA 2022 Conference* (European Heath Economics Association) "Understanding the dynamics of a viral spread by sparse composite likelihood selection."
- *Canadian Economic Association*, Ottawa Canada, June 2022. "Understanding the dynamics of a viral spread by dominance analysis."

- *AEDE XXIX* Economics of Education Association. July, 2021. Native-born-immigrant wage gaps in Canada: Market imperfections or differences in human capital endowments? (with A. Dar)
- *BigSurv20* Big Data Meets Survey Science. November, 2020. Utrecht, Netherlands. "What can be predicted from a national health survey? Is cancer one of them?".
- *European Union Health Economics Association* EUHEA 2020 Conference, Oslo July 9. What can be predicted from a national health survey? Is cancer one of them?.
- *Canadian Research Data Centre Network* (CRDCN) 2019 National Conference, Halifax, October 2019. "What can be predicted from CCHS? Is cancer one of them?" (with Mutlu Yuksel).
- *Canadian Economic Association*, Banff, Alberta, Canada, June 2019. "Son Preferring Fertility Behaviors in Turkey" (MC. Robitaille-Blanchet).
- 13th Annual Meeting of the *Portuguese Economic Journal*, Evora, July 2019. ""Son preference, Sex-Selective Abortions, and Birth-Spacing in Canada".

Invited/Workshops (Last 5 years)

- The 2nd Workshop of Applied Microeconomics. Invited presentation: Causal Predictors of Cancer by Sparsity (SSHRC) (Andrea Guisto, Mutlu Yuksel). August 10-11 2023.
- The 1st Workshop of Applied Microeconomics. Invited presentation: Application of "dominance analysis" with health data: Identifying regional spreaders of a viral pathogen and their socio-spatial predictors in Nova Scotia. August 23-24 2022.
- 1st Joint Workshop of Applied Macro/Microeconomics. Invited presentation: "Causal Predictors of Cancer". Free University of Bolzano. December 16-18, 2021
- Free University of Bolzano. October 20, 2021. Invited presentation: Dynamics of the COVID-19 Spreadt by Modified Graphical Network Analysis.
- SIdE - Societa Italiana Di Econometria, (June 2019). Bank of Italy, Bertinoro, Italy. *Summer School on Machine Learning Algorithms for Econometricians*. 6 Days.

Grants/Awards

- AtlanticOER (2024-2026) $7,000, Introduction to Applied Machine Learning with R and Python for Social Sciences and Business- Development Grants
- I am among five faculty members in the Sobey School of Business that have been awarded the first Sobey Professorships in 2021.
- Research Nova Scotia (2020-2023) Principle Investigator $64,900 – The Nova Scotia COVID19 Research Coalition. *The role of environmental determinants and social mobility in viral infection transmission in Halifax.*
- TUBITAK (2014-2017) $45,000, Principle Investigator, *Homeownership and Duration of Unemployment in Turkey.*
- NFI Indiana State University (2008-2012) $39,500, *Social Security and Generational Accounting.*
- Atlantic Metropolis Centre (2011) $15,000, Pilot Project Grant on immigration.
- University of Delaware (2006) $2,000, Graduate Dissertation Fellowship Award.
- Internal research grants (2007 – 2021) $46,000 (in total), several different projects awarded by University of Windsor and Faculty of Graduate Studies and Research, Saint Mary's University.

Graduate Supervision

- Masters of Applied Economics, MRP 2023, Joseph Obodo-Elue. "Bankruptcy Prediction by Using New Textual Features in Financial Statements".
- PhD in Management, Dissertation 2022, Abdlmutaleb Boshanna. "Diversity, Corporate Policies, and Social Movements: A Machine Learning Approach".
- Masters of Finance, Thesis 2021, Tariqal Islam,
- Masters of Finance, Thesis 2020, Yeonsil Yi,
- Masters of Applied Economics, MRP 2020, Jahnae Cox,
- Masters of Science in Computing & Data Analytics, Thesis 2019, Diven Sambhwani,
- Masters of Applied Economics, MRP 2017, Pat Marcuccio,

- Masters of Applied Economics, MRP 2016, Claudia Zamai,
- PhD in Economics, Dissertation 2009, Azad Haidar.

Teaching

- Higher Education Teaching Certification (a two-year special program for selected PhD students), at the University of Delaware (2003–2005).

Courses (Saint Mary's University, 07/2007 – Present):

- MBAN 5550 Machine Learning & AI (**Master of Business Analytics**),
- MFIN 6603 Applied Statistics and Data Analysis (**Master in Finance**),
- MFIN 6609 Econometrics and Business Forecasting (**Master in Finance**).
- MAE 6692 Machine Learning and Economics (**Master in Applied Economics**)
- ECON 4848 Introduction to Applied Machine Learning in R,
- ECON 4403 Econometrics,
- ECON 3303 Statistics,
- ECON 4498 Research Seminar in Economics,

Achievements

- I was nominated to *Fr. William A. Steward Medal of Excellence in Teaching* by students in Saint Mary's University (2017),
- I was awarded *Excellent Teaching Award* at the University of Delaware (2005).
- I was awarded as the *Best Teacher* in the Summer School of Sabanci University (2005).
- To enhance students' data management skills and establish a more productive learning environment for data analytics techniques, I have designed a program for MEA and honour students (Economics) by Statistics Canada's Atlantic Research Data Centre to access major confidential micro data files. This program has been shown as a model program to other universities in Canada.
- I have developed and taught a course, `Introduction to Applied Machine Learning with R` in Winter 2019. It is the first and only machine learning course in the Sobey School of Business.

Service

University activities

- Acting Chair - Economics 07/2023-07/2024
- Invited to President's Research Roundtable for Artificial Intelegence. (October 16, 2020)
- Served in a special committee preparing a proposal for the Sobey School of Business Strategic Plan 2020-25,
- A member in Research Advancement Committee,
- A member in BComm Committee,
- Organized weekly Brown-Bag meetings in 2015 and 2016 at Sobey School of Business.

Contributions to the profession and community

- Organizer and Instructor of the 2-day *Sobey Workshop on the Use of NLP and LLMs in Social Sciences with Python* 26-27 August 2024.
- Co-organizer (24-25 August 2024) of 3rd Workshop of Applied Microeconomics.
- Co-organizer (10-11 August 2023) of 2nd Workshop of Applied Microeconomics.
- Co-organizer (24-25 August 2022) of 1st Workshop of Applied Microeconomics.
- Co-founder of MLportal, Research Portal on Machine Learning for Social and Health Policies,
- Organizer and lecturer of at Summer School (July 20-23, 2020) "Machine Learning for Economists and Applied Social Scientists",

- Organizer a webinar series at MLportal (July 23-24, 2020) "Machine Learning for Economists and Applied Social Scientists",
- Serving as a referee 7-10 times in multiple academic journals annually including the Journal of Housing Economics, Regional Science, IZA Journal of Labor Economics, Journal of Population Economics, Applied Economics.
- Member of the Reimagining the Future for Nova Scotians,
- My work was also featured in newspapers, social media, CBC, Global News, and National Post. See the latest Global News and here in CBC National.
- Presenter at Community Revitalization & Prosperity Network on What Machine Learning Can tell Us About the Post-Pandemic Labour Market.