

Pablo A. Henríquez

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Research

I'm interested in machine learning, data science, business intelligence, data mining, deep learning and neural networks with random weights.

Experience

Facultad de Administración y Economía , Universidad Diego Portales, *Associate Professor*, August 2025-Present.

Master in Business Analytics and Data Science, Facultad de Administración y Economía - Facultad de Ingeniería y Ciencias , Universidad Diego Portales, *co-Director*, June 2024-Present.

Whitebox S.A., Consultora de Análisis de Datos, <https://thewhitebox.cl/es/>, *Co-founder*, January 2025-Present.

Master in Digital business and Data Analytics (Full time), Facultad de Administración y Economía , Universidad Diego Portales, *Director*, June 2024-Present.

Diploma in Innovation and Digital Transformation - SUBDERE, Facultad de Administración y Economía , Universidad Diego Portales, *Director*, October 2024-January 2025.

Master in Digital Business, Facultad de Administración y Economía , Universidad Diego Portales, *Director*, October 2022-Present.

Centro de Investigación Empírica en Negocios (CIEN), Facultad de Administración y Economía, Universidad Diego Portales, *Director*, March 2022-January 2024.

Centro de Estudios Públicos, CEP Chile, *C22 project researcher*, October 2021-Present.

Facultad de Administración y Economía , Universidad Diego Portales, *Assistant Professor*, March 2020-August 2025.

Facultad de Ingeniería y Ciencias, Universidad Adolfo Ibáñez, *Part time*, March-December 2019.

Education

Ph.D. Complex Systems Engineering, Universidad Adolfo Ibáñez, 2019.

M.Sc. Physics, Universidad de Concepción, 2015.

P.E. Physical Engineering, Universidad de Concepción, 2015.

Undergraduate Degree in Physics, Universidad de Concepción, 2012.

Publications

Thesis

New Developments For Randomized Neural Networks, PhD thesis, Universidad Adolfo Ibáñez, 2015-2019.

Journal Articles (WoS)

1. Verelst, N., Henríquez, P. A. Technological innovations as determinants of international tourism flows: A gravity model. *Tourism Economics*, 2025.
2. Magner, N., Henríquez, P. A., Sanhueza, A. Decoding risk sentiment in 10-K filings: Predictability for US stock indices. *Finance Research Letters*, 2025, 107472.
3. Henríquez, P.A., Acuña, J., Apablaza, V. Spatial Dynamics and Price Determinants in the Local Gasoline Retail Market: Evidence from Greater Santiago, *Spatial Economic Analysis*, 2025, 1-24.
4. Henríquez, P.A., Araya, N. Multimodal Alzheimer's disease classification through ensemble deep random vector functional link neural network, *PeerJ Computer Science*, 2024, 10:e2590.
5. Henríquez, P.A., Alessandri, F. Analyzing digital societal interactions and sentiment classification in Twitter (X) during critical events in Chile, *Heliyon*, 10(12), 2024, e32572.
6. Díaz, F., Henríquez, P.A. Assessing the impact of small firm dynamics on public mental health amid the pandemic in Latin America, *BMC Public Health*, 24(1), 2024, 1839.
7. Díaz, F., Henríquez, P.A., Hardy, N., Ponce, D. Population Well-being and the COVID-19 Vaccination Program in Chile: Evidence from Google Trends, *Public Health*, Vol. 219, 2023, 22-30.
8. Ruz, G.A., Araya-Díaz, P., Henríquez, P.A. Facial biotype classification for orthodontic treatment planning using an alternative learning algorithm for tree augmented Naive Bayes, *BMC Medical Informatics and Decision Making*, Vol. 22, 2022, 316.
9. Díaz, F., Henríquez, P. A., Winkelried, D. Heterogeneous Responses in Google Trends Measures of Well-Being to the COVID-19 Dynamic Quarantines in Chile, *Scientific Reports*, Vol. 12, 2022, 1-12.
10. Cillero, J.I., Henríquez, P.A., Ledger, T.W., Ruz, G.A., González, B. Individual competence predominates over host nutritional status in Arabidopsis root exudate-mediated bacterial enrichment in a combination of four Burkholderiaceae species, *BMC Microbiology*, Vol. 22, 2022, 218.
11. Billi, M., Mascareño, A., Henríquez, P.A., Rodríguez, I., Padilla, F., Ruz, G.A. Learning from crises? The long and winding road of the salmon industry in Chiloé Island, Chile, *Marine Policy*, Vol. 120, 2022, 105069.
12. Henríquez, P.A., Sabat, J., Sullivan, JP. Politicians' willingness to agree: evidence from the interactions in twitter of Chilean deputies, *Journal of Information Technology & Politics*, 2022, 1-20.
13. Cordero, R., Mascareño, A., Henríquez, P.A., Ruz, G.A. Drawing Constitutional Boundaries: A Digital Historical Analysis of the Writing Process of Pinochet's 1980 Authoritarian Constitution, *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, Vo. 55, 2022, 145-167.
14. Ruz, G.A., Henríquez, P.A., Mascareño, A. Bayesian Constitutionalization: Twitter Sentiment Analysis of the Chilean Constitutional Process through Bayesian Network Classifiers, *Mathematics*, 2, 2022, 166.

15. Díaz, F., Henríquez, P. A., Winkelried, D. Stock market volatility and the COVID-19 reproductive number, *Research in International Business and Finance*, 59, 2021, 101517.
16. Díaz, F., Henríquez, P. A. Social sentiment segregation: Evidence from Twitter and Google Trends in Chile during the COVID-19 dynamic quarantine strategy, *PLOS ONE*, 16, 2021, 1–29.
17. Mascareño, A., Henríquez, P.A., Billi, M., Ruz, G.A. A Twitter-Lived Red Tide Crisis on Chiloé Island, Chile: What Can Be Obtained for Social-Ecological Research through Social Media Analysis?, *Sustainability*, Vol. 12, 2020, 8506.
18. Ruz, G.A., Henríquez, P.A., Mascareño, A., Sentiment classification of Twitter data during critical events by Bayesian networks, *Future generation computer systems*, Vol. 106, 2020, 92-104.
19. Henríquez, P.A., Ruz, G.A. Noise reduction for near-infrared spectroscopy data using extreme learning machines, *Engineering Applications of Artificial Intelligence*, Vol. 79, 2019, 12-22.
20. Mascareño, A., Cordero, R., Azócar, G., Billi, M., Henríquez, P.A., Ruz, G.A. Controversies in social-ecological systems: Lessons from a major red tide crisis in Chiloe Island, Chile, *Ecology and Society*, Vol. 23, 2018, 15.
21. Henríquez, P.A., Ruz, G.A. A non-iterative method for pruning hidden neurons in neural networks with random weights, *Applied Soft Computing*, Vol. 70, 2018, 1109-1121.
22. Henríquez, P.A., Ruz, G.A. Extreme learning machine with a deterministic assignment of hidden weights in two parallel layers, *Neurocomputing*, Vol. 226, 2017, 109-116.

Book Chapters

1. Henríquez, P.A. Ensemble Deep RVFL with K-means for Sentiment Classification on Twitter (X). In *Recent Advances in Deep Learning Applications*. Taylor & Francis, forthcoming 2026.
2. Mascareño, A., Rozas, J., Henríquez, P., Quijada, S., Gamarra, C. Economía tanática de la violencia: Usos conceptuales en Chile, 2017–2024. In *Violencia en Chile: La fragilidad del orden social*. Fondo de Cultura Económica, in press, 2025.

Papers in Conference Proceedings

1. Verelst, N. Henríquez, P.A. AI-Driven tourism forecasting in Latin America: The power of large language models, Business Association of Latin American Studies (BALAS), 2026, Accepted.
2. Verelst, N. Henríquez, P.A. Ensemble Deep RVFL Neural Networks Integrating News and Protest Sentiment for Tourism Stocks, 28th Iberoamerican Congress on Pattern Recognition, CIARP 2025, Accepted.
3. Henríquez, P.A. Sentiment Classification on Twitter(X) Through Ensemble Deep Random Vector Functional Links, The IEEE 23rd International Conference on Machine Learning and Applications (ICMLA 2024), Miami, FL, USA, 2024, pp. 1628-1632.
4. Ruz, G. A., Araya-Díaz, P., & Henríquez, P. A. An alternative learning algorithm for tree augmented naive Bayes: an application to facial biotype classification, The 17th International Conference on Computational Intelligence Methods for Bioinformatics and Biostatistics, Online, 15-17 November, 2021, pp. 1-5.
5. Ruz, G.A., Henríquez, P.A. Random vector functional link with naive Bayes for classification problems of mixed data, The IEEE 31st International Conference on Tools with Artificial Intelligence (ICTAI), Portland, Oregon, November 4-6, 2019, pp. 1749-1752.

6. Henríquez, P.A., Ruz, G.A. Twitter sentiment classification based on deep random vector functional link. The 2018 IEEE International Joint Conference on Neural Networks (IEEE IJCNN 2018), Rio de Janeiro, Brazil, July 8-13, 2018, pp. 272-277.
7. Henríquez, P.A., Ruz, G.A. An empirical study of the hidden matrix rank for neural networks with random weights. The IEEE 16th International Conference on Machine Learning and Applications (ICMLA 2017), Cancun, Mexico, 18-21 December, 2017, pp. 883-888.

Abstracts

1. P.A. Henríquez, Impacto Económico en la Salud Mental Durante la Pandemia y Clasificación Multimodal de Alzheimer Mediante Redes Neuronales, Workshop on Machine and Statistical Learning with Applications, Santiago, Chile, July 17, 2024.
2. P.A. Henríquez, F. Alessandri., Analyzing Digital Societal Interactions and Sentiment Classification in Twitter: A Comparative Study of Influencers and Media during the 2019 Protests in Chile, Conference on Complex Systems, Salvador, Bahía, Brazil, October 16-20, 2023.
3. G.A. Ruz, P.A. Henríquez, A. Mascareño, E. Goles, Learning Bayesian network classifiers with applications to Twitter sentiment analysis, International Conference on Complex Systems (ICCS 2018), Cambridge, MA, USA, July 22-27, 2018, pp. 175.
4. Pablo Henríquez, Daniel Faundez, Renato Saavedra, Claudio Faundez, Modelamiento fase equilibrio en mezclas de etanol-congénerees, utilizando diferentes técnicas multivariadas (MLR, PLS y ANN), XIX Chilean Physics Symposium (SOCHIFI), Concepción, Chile, November 26-28, 2014.
5. Daniel Faundez, Pablo Henríquez, Cesar Soto, Renato Saavedra, Determinación simultánea de Cu(II), usando 5-(4-sulfofenilazo)-8 aminoquinolina [SPA], mediante Lente térmica (LT), en combinación con espectrofotometría, XIX Chilean Physics Symposium (SOCHIFI), Concepción, Chile, November 26-28, 2014.
6. Juan Pablo Inostroza, Renato Saavedra, Apolinaria García, Jorge Yañez, Pablo Henríquez, Identificación de Lactobacillus suplementados con selenio mediante espectroscopía fotoacústica y análisis multivariado, XXII Congreso Latinoamericano de Microbiología y 4 Congreso Colombiano de Microbiología, Cartagena, Colombia, November 5-8, 2014, pp. 119.
7. C. F. Montalva, M. Jara, D. A. Faundez Cifuentes, P. A. Henríquez, K. Chandra, M. Lopez, K. Raman, Energy scavenging for portable electronic devices by multiferroics: structural, dielectric and piezoelectric properties of $(1-x)(0.4\text{PLzT}-0.6\text{PbbIN})\text{-xCoFe}_2\text{O}_4$ nanocomposites, 12 Congreso Binacional De Metalurgia y Materiales, Valparaíso, Chile, October 22-26, 2012, pp. 165.

Other publications

1. Mascareño, A., Rozas, J., & Henríquez, P. Elecciones 2025, Segundo Informe C22-CEP, mayo, Puntos de Referencia, Vol 729, 2025.
2. Mascareño, A., Rozas, J., & Henríquez, P. Elecciones 2025, MAYO 2025 Primer Informe C22-CEP, marzo-abril, Puntos de Referencia, Vol 727, 2025.
3. Henríquez, P., Acuña, J., Apablaza, V. Determinantes de precios y dinámicas espaciales en el mercado minorista de la gasolina 93: El caso del Gran Santiago, Documento de Trabajo N°29, OCEC, UDP, 2024.

4. Mascareño, A., Rozas, J., Henríquez, P.A. Los sentimientos de X sobre la cuenta pública 2024, Puntos de Referencia, Vol 698, 2024.
5. Mascareño, A., Henríquez, P.A., Rozas, J.. El valor de la simpatía política mutua. Pragmatismo y convicción en la Comisión Expertal, Puntos de Referencia, Vol 665, 2023.
6. Mascareño, A., Rozas, J., Lang, B., Henríquez, P.A. Apruebo y rechazo en septiembre 2022. Expectativas, decepciones y horizontes comunes para el nuevo proceso constitucional, Puntos de Referencia, Vol 643, 2023.
7. Mascareño, A., Rozas, J., Lang, B., Henríquez, P.A., Izquierdo, S. Mapuche en el sur: identidad, materialidad y expectativa, Puntos de Referencia, Vol 638, 2023.
8. Mascareño, A., Rozas, J., Lang, B., Henríquez, P.A. Partido de la Gente. La construcción del individualismo posdemocrático, Puntos de Referencia, Vol 630, 2022.
9. Mascareño, A., Rozas, J., Lang, B., Henríquez, P.A. Zona de curvas, Puntos de Referencia, Vol 611, 2022.
10. Sabat, J., Díaz, F., Henríquez, P.A. Análisis de los criterios de decisión de cuarentenas en Chile, DOCUMENTO DE TRABAJO N°9, OCEC, 2022.
11. Mascareño, A., Cordero, R., Henríquez, P.A., Ruz, G.A. Comunidades semánticas y distinciones políticas en el discurso de los convencionales constituyentes, Puntos de Referencia, Vol. 581, 1-27, 2021.
12. Mascareño, A., Cordero, R., Henríquez, P.A., Ruz, G.A., Rodríguez, I., Ojeda, I., Foulon, C.L., Billi, M. Semánticas constitucionales: un análisis de los programas de los convencionales constituyentes, Puntos de Referencia, Vol. 578, 1-17, 2021.

Research Projects Participation

- "Millennium Nucleus for Social Data Science (SODAS)", ANID-MILENIO-NCN2024_103, 2024-2027, *Associate Researcher*
- "Sentiment Classification of Social Media Through Randomization-based Neural Networks" (FONDECYT INICIACIÓN 2023- 11230396), 2023-2025, *Head Researcher*
- "Machine Learning for Mental Health: New Developments and Applications Using Multimodal Data" (Anillos ACT210096), 2021-2024, *Associate Researcher*.
- "Bien Público Observatorio turístico Big Data Región Metropolitana." Bienes Públicos CORFO (2017-2019), *Data Scientist*
- "Gobernando transiciones críticas en sistemas socioecológicos: El caso de Chiloé, Chile". Regular Fondecyt Project 1190265 (2019-2022), *Assistant Researcher*
- "Modelo de crisis sociales". Núcleo milenio (2015-2017), *Assistant Researcher*
- "Learning strategies for discrete, continuous, and hybrid Bayesian network classifiers". Regular Fondecyt Project 1180706 (2018-2021), *Assistant Researcher*
- "Constitución política y reprogramación del orden social: Un estudio sobre la producción de conceptos de sociedad en la discusión y redacción de la Constitución chilena de 1980". Regular Fondecyt Project 1181585 (2018-2021), *Assistant Researcher*

"Desarrollo de modelos predictivos usando machine learning para la toma de decisiones en la producción de arándanos bajo condiciones actuales y proyectadas de cambio climático". Contratos Tecnológicos para la Innovación-CORFO (2018-2019), *Data Scientist*

Professional Activities

Academic Editor, PLOS ONE, 2023-present.

Academic Editor, PLOS Complex Systems, 2024-present.

FONDECYT Project Reviewer

Reviewer for the following ISI journals: Neurocomputing, Expert Systems with Applications, Microchemical Journal, Engineering Applications of Artificial Intelligence, Journal of Intelligent & Fuzzy Systems, IEEE Transactions on Systems, Man, and Cybernetics: Systems, International Journal of Disaster Risk Reduction, Applied Soft Computing, Computer Methods and Programs in Biomedicine, Concurrency and Computation: Practice and Experience, Pattern Recognition, Heliyon, International Journal of Data Science and Analytics, International Journal of Computational Intelligence Systems.

Teaching

Universidad Diego Portales

"Mathematics for data science (Master course)" 2025

"Data management with R and Python (PhD course)" First semester 2023-2024-2025.

"Machine learning (Master course)" 2023-2024-2025.

"Data Science for public policy (Master course)" 2022-2023-2024-2025.

"Business analytics II (Master course)" (Second Semester 2022-2023-2024-2025)

"Project 1 (Master course)" (First Semester 2023-2024-2025)

"Data mining" (Second Semester 2021)

"Information technology in business III" (First and Second Semester 2020-2021, First Semester 2022).

"Introduction to R" (Second Semester 2020).

Universidad Adolfo Ibáñez

"Textual analytics" Diploma course (Second Semester 2023-2024).

"Data mining" (Second Semester 2019).

"Introduction to artificial intelligence" (Second Semester 2019).

Teaching Assistant

Universidad Adolfo Ibáñez: "Machine learning" (Semester 1-2019); "Data Management and Analysis" (Semester 1-2019); "Machine learning" (Semester 2-2018); "Business Intelligence" (Semester 2-2018), "Automatic learning" (Semester 2-2018); "Statistics and data analysis" (Semester 1-2018); "Applied big data workshop" (Semester 1-2018); "Data mining" (Semester 1-2018); "Data Management and Analysis" (Semester 1-2018); "Business Intelligence" (Semester 2-2017); "Data Management and Analysis" (Semester 1-2017); "Electromagnetism" (Semester 1-2017); "Electromagnetism" (Semester 2-2016); "Business Intelligence" (Semester 2-2016); "Data Management and Analysis" (Semester 1-2016).

Advising

Current Students:

PhD.: Nando Verelst.

Past Students:

Master Students: Vicente Castro, Katherine Parra, Constanza Soto, Tian Chai, Jazmín Díaz, Nicolás González, José Ignacio Fuentes, Paolo Pruzzo, Yair Yuhaniak (2022). Nicolás Aguirre, Ricardo Barria Trinidad Cofré, Pía Garay, Sebastián Rozas, Juan Sandoval, Martín Sanchez, Rodrigo Vásquez, Gabriel Medina, Jaime Núñez, Joel Paredes Benjamín Sanchez (2023). Sofia Basaez, Sofia Garrido, Vicente Garrido, Benjamin Jimenez, Diego Valderrama, Renata Valenzuela, Rolando Villagra (2024).

Summer School

XIV IEEE Latin American Summer School on Computational Intelligence(EVIC), Santiago, Chile, 12-14, Diciembre, 2018.

2nd International Summer School on Deep Learning 2018, Genova, Italy, 23-27 July, 2018.

Scholarships

Doctoral Scholarship, granted by CONICYT (2015-Folio: 21150790).

M.Sc. Scholarship, granted by CONICYT (2013-Folio: 22130851).

Computer Skills

Programming: R-Project, Python, Matlab, Octave, Shell Bash.

Platform: Linux, Mac OS, Windows.

Typography: Latex.

Language

Spanish: Native.

English: Complete.