

Jose Avilez

226-505-0997 | jlavilez@uwaterloo.ca | [linkedin.com/in/jose-luis-avilez/](https://www.linkedin.com/in/jose-luis-avilez/) | github.com/jlavileze

EDUCATION

- University of Waterloo** Waterloo, ON
Master of Mathematics in Statistics Sep. 2020 – Present
- University of Waterloo** Waterloo, ON
Bachelor of Mathematics in Mathematical Finance, Minors in Pure Mathematics and Statistics Jan. 2017 – Apr. 2020
- Universidad Peruana Cayetano Heredia** Lima, Peru
Former MD student Mar. 2014 – Jul. 2015

ACADEMIA

- Graduate Teaching Assistant** September 2020 – Present
University of Waterloo Waterloo, ON
- Teaching, office hours, and marking for an assortment of undergraduate statistics courses.
- Undergraduate Research Assistant** May 2019 – Aug. 2019
University of Waterloo Waterloo, ON
- Researched amenable groups and wrote essay titled “*Functional Analysis and Amenability: A Gentle Expedition*”.
 - Talks: Approximation by neural networks; Haar measures; Cardinality of invariant means on amenable groups.
- Research Assistant** May 2016 – Dec. 2016
Universidad Peruana Cayetano Heredia Lima, Peru
- Designed an automated thesis registry database, which doubled the rate of satisfactory peer-review responses.
 - Designed and implemented the faculty’s research integrity and anti-plagiarism rules and policies.

INDUSTRY EXPERIENCE

- Quantitative Developer** Sep. 2019 – Aug. 2020
GWN Capital Management Toronto, ON
- Built fixed income analytics suite for pricing, risk management, time series analysis, and dimensionality reduction.
- Insurance Modelling and Analytics Specialist (Co-op)** Sep. 2018 – Dec. 2018
Oliver Wyman Toronto, ON
- Implemented and adapted portfolio optimisation algorithms to perform effectively in constrained solution spaces.
 - Awarded co-op prize for research in automatic differentiation for asset and liability sensitivity computations.
 - Extended OW’s Atlas codebase by adding a Monte Carlo pricing engine for bonds, swaps, and options.
- Statistical Data Scientist (Co-op)** Jan. 2018 – Apr. 2018
Capital One Toronto, ON
- Deployed a C-Python extension for variable level monitoring, which yielded a 400x speed boost over benchmarks.
 - Built tree-based machine learning models to predict delinquency risk, outperforming benchmark GLM models.
- Junior Data Scientist (Co-op)** May. 2017 – Aug. 2017
Flipp Toronto, ON
- Constructed GLMs and hypothesis tests to explain and predict user behaviour in Flipp’s shopping app.
 - Developed easy-to-us data visualisation dashboards for business and executive teams to report key KPIs.

In refereed journals

1. Valcarcel, B., Avilez, J. L., Torres-Roman, J. S., Poterico, J. A., Bazalar-Palacios, J., & La Vecchia, C. (2020). *The effect of early-stage public health policies in the transmission of COVID-19 for South American countries*. Rev Panam Salud Publica; 44, nov. 2020.
2. Solís-Villanueva, J., Michahelles-Barreno, C., Rodríguez-Lay, E. G., Farfán-García, J., Anticona-Sayán, M., Curo-Carrión, N., Avilez J. L. & Miranda-Montero, J. J. (2019). *Prevalencia y factores de riesgo de neuropatía diabética periférica en pacientes recientemente diagnosticados de diabetes mellitus tipo 2 en un hospital nacional*. Revista de la Sociedad Peruana de Medicina Interna, 32(1), 6-10.
3. Torres-Roman, J. S., Urrunaga-Pastor, D., Avilez, J. L., Helguero-Santin, L. M., & Malaga, G. (2018). *Geographic differences in overweight and obesity prevalence in Peruvian children, 2010–2015*. BMC public health, 18(1), 353.
4. Torres-Roman, J. S., Azañedo, D., Ruiz, E. F., Avilez, J. L., & Málaga, G. (2017). *The double burden of malnutrition: a threat for Peruvian childhood*. Gaceta Sanitaria, 31, 359-360.
5. Torres-Roman, J. S., Bazalar-Palacios, J., Ruiz, E. F., Avilez, J. L., & Rodriguez-Morales, A. J. (2017). *New strategies for the eradication of Aedes aegypti: what challenges do we face in Latin America?*. Le infezioni in medicina: rivista periodica di eziologia, epidemiologia, diagnostica, clinica e terapia delle patologie infettive, 25(2), 193.
6. Torres-Roman, J. S., Helguero-Santin, L. M., Bazalar-Palacios, J., Avilez, J. L., & Dávila-Hernández, C. A. (2017). *Overweight and obesity in medical students. A new challenge for the Peruvian health system?*. Salud Publica de Mexico, 59(3), 207-208.
7. Avilez, J. L., Zevallos-Morales, A., & Taype-Rondan, A. (2017). *Use of enhancement drugs amongst athletes and television celebrities and public interest in androgenic anabolic steroids. Exploring two Peruvian cases with Google Trends*. Public health, 146, 29.
8. Torres-Roman, J. S., Azañedo, D., Ruiz, E. F., Avilez, J. L., Málaga, G., & Machicado, C. (2017). *Human papillomavirus-associated oropharyngeal cancer: Prioritizing preventive policies in males*. Oral Oncology, 69, 129-130.
9. Miranda, J. J., Carrillo-Larco, R. M., Gilman, R. H., Avilez, J. L., Smeeth, L., Checkley, W., & Bernabe-Ortiz, A. (2016). *Patterns and determinants of physical inactivity in rural and urban areas in Peru: a population-based study*. Journal of physical activity and health, 13(6), 654-662.
10. Avilez, J. L., Bazalar, J., Azañedo, D., & Miranda, J. J. (2016). *Perú, cambio climático y enfermedades no trasmisibles: ¿Dónde estamos y a dónde vamos?*. Revista Peruana de Medicina Experimental y Salud Pública, 33, 143-148.
11. Carrillo-Larco, R. M., Espinoza-Salguero, M. E., Avilez, J., & Osada, J. (2015). *Nivel de conocimiento y frecuencia de autoexamen de mama en alumnos de los primeros años de la carrera de Medicina*. Revista Medica Herediana, 26(4), 209-216.

In other peer-reviewed venues

1. Avilez, J. L., Lopez, L. M., Llanos, O., Matayoshi, S., & Accinelli, R. A. (2017). *Chronic bronchitis, but not emphysema, related to gastroesophageal reflux disease is associated with biomass exposure in a high altitude rural setting*. In B48. COPD and Comorbidities (pp. A3654-A3654). American Thoracic Society. (Poster Presentation)
2. Avilez, J.L., Carrillo-Larco, R.M., Miranda, J.J. (2016) *Should I stay or should I go? Rural-to-urban migration and risk of developing obesity in Peru*. World Obesity Federation. (Communication)
3. Bryce-Alberti, M., Avilez, J.L., Miranda, J.J. (2016) *Understanding Physical Inactivity in Rural and Urban Regions*. World Obesity Federation. (Communication)

4. Avilez J.L., Brandt, L. (2015). *Rethinking mental health in Latin America*. Global Health, Epidemiology, and Genomics. (Communication)
5. Avilez, J. L., Miranda, J. J., Carrillo-Larco, R. M., Gilman, R. H., Smeeth, L., Checkley, W., Bernabe-Ortiz, A. (2015) *Patrones de Inactividad Física en Áreas Rurales/Urbanas y de Altitud Baja/Alta en el Perú*. Universidad Peruana Cayetano Heredia - Jornadas Científicas 2015. (Poster Presentation)
6. Galvez, R. Avilez, J.L., Diez-Canseco, F., Miranda, J.J, SCOPE OBESITY European Fellows. (2015) *Adopting healthy eating habits in Peru's community kitchens: The Comedores Populares Experience*. World Obesity Federation. (Communication)

AWARDS AND SCHOLARSHIPS

1. International Ontario Graduate Scholarship, 2020-2021
2. CMS Prize (Poster competition), Canadian Mathematical Society, 2020
3. International Master's Award of Excellence, University of Waterloo, 2020-2021
4. Graduate Entrance Scholarship, University of Waterloo, 2020-2021
5. Pure Mathematics Silver Award, University of Waterloo, 2020
6. Digital Technology Scholarship, Konrad Group, 2020
7. Work Term Report Award, University of Waterloo, 2019
8. David Shepherd Scholarship, University of Waterloo, 2019
9. 2nd Place East Coast Invitational Datathon, Citadel Securities, 2018
10. 1st Place Ethereum Hackathon, University of Toronto, 2018
11. Joe C. Lee Entrepreneurial Scholarship, University of Waterloo, 2018
12. Best Delegate (WHO Committee), Harvard National Model United Nations, 2016
13. Best Delegate (Global Health Cluster), Harvard National Model United Nations, 2015
14. Francisco Tejada Scholarship, Universidad Peruana Cayetano Heredia, 2015

SKILLS

Spoken Languages: English, Spanish

Programming Languages: Python, R, SQL, C#, C

Libraries and Frameworks: Pandas, NumPy, Matplotlib, PyTorch, Keras, H2O