

# JOÃO PEDRO BAZZO VIEIRA

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C.V. last updated in August 2022

## EDUCATION

M.Sc. in Environmental Engineering 📅 2020

Federal University of Parana

Title: "Spatiotemporal vehicle emissions inventory model: A case study in Curitiba-PR" [\[Link\]](#) *[In portuguese]*

Advisor: Prof. Marcelo Risso Errera Co-Advisor: Luiz Carlos Daemme

B.Sc. in Environmental Engineering 📅 2016

Federal University of Parana

Title: "Flow rates regionalization using RBF Neural Artificial Networks" [\[Link\]](#) *[In portuguese]*

Advisor: Prof. Ricardo Carvalho de Almeida

Exchange Program in Environmental Engineering 📅 2014

University of Waterloo

Fellowship Science Without Borders Grant

## EXPERIENCE

Research Assistant

Institute for Applied Economic Research (IPEA)

📅 Sept 2019 – Current

📍 Brasília, Brazil

- Development of R packages to process GTFS in a high spatiotemporal resolution (**gtfs2gps package**) and to estimates tailpipe emissions from public transportation (**gtfs2emis package**);
- Member of **Access to Opportunity** project, which aims to calculate people's access to jobs, health, and education services by different transport modes for Brazil's largest cities;
- International comparison of urban buses emissions based on GTFS data *[In progress]*;
- Research on the impact of COVID-19 in the air travel demand and emissions in Brazil; Trends and inequalities of urban mobility in Brazil.

Research Coordinator

Cicloiguaçu Cyclist Association

📅 Jun 2016 – Jun 2019

📍 Curitiba, Brazil

- NGO aims to increase and improve bicycle use as a mode of transportation in Curitiba
- Coordination of Curitiba's cyclist profile 2017, an initiative of Metropolitan Observatory UFRJ; Transporte Ativo and LABMOB
- Participation in vehicle counts projects, seminars about bicycle in the urban environment, spatial data analysis on cyclist injuries and deaths, with the partnership with local universities

Intern

Envex Consulting

📅 Fev 2015 – Mai 2016

📍 Curitiba, Brazil

- Air quality, noise pollution, hydrology, and environmental impact assessment projects
- Development of R scripts to process and visualize data on air quality and noise monitoring projects

Research intern

University of Waterloo | Climatology Lab

📅 Set – Dec 2014

📍 Waterloo, Canada

- Research in a project entitled "The study of the relationship between ocean temperature and jet streams displacement in scenarios of climate change", with the supervision of Prof. Christopher Fletcher;
  - Programming using R and Linux (Bash Shell), as part of the Science Without Borders project grant.
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## Intern

### Public Prosecutors Office

📅 Nov 2011 – Ago 2013

📍 Curitiba, Brazil

- Assistance on process related to municipal solid waste management, atmospheric emissions, environment licensing, and water resources
  - Development of report on composting and municipal solid waste management, in the light of 12.305/10 law
  - Technical analysis on Environment Impact Studies, Solid waste management plans, and other projects related to environmental management of cities and industries
  - Inspection of industrial and environmental damaged areas
  - Studies involving environmental law
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## Junior Enterprise

### Ciclus Consulting – Federal University of Parana

📅 Mar 2010 - Mar 2013

📍 Curitiba, Brazil

- Greenhouse gas inventory project;
  - Entrepreneurship and project management training;
  - Supervision of project consultants responsible for: i) Meet the project deadline and budget; ii) Follow methodology for project management.
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# PUBLICATIONS

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## Work in progress

- Vieira, J.P.V, Pereira, H.M.R and Andrade, P. "gtfs2emis": an R package to estimate public transport emissions based on GTFS data
  - Vieira, J.P.B., Errera, M.R. and Daemme, L.C. A methodology for spatiotemporal vehicular emissions inventories using Origin-Destination data
  - Pereira, H.M.R., Vieira, J.P.B., and Andrade, P. An international bottom-up inventory of public transport emissions
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## Articles

- Vieira, J. P., Vieira Braga, C. K., Pereira, R. H. M. (2022). The impact of COVID-19 on air passenger demand and CO2 emissions in Brazil. Energy Policy, 164, 112906. [\[Link\]](#)
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## Pre-print

- Pereira, H.M.R.; Andrade, P., and Vieira, J.P.B., Exploring the time geography of public transport networks with GTFS data and gtfs2gps. [\[Link\]](#)
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## Book Chapters and Reports

- Pereira, H.M.R., Warwar L., Parga J.,Vieira J.P.B., Braga C.K., Herszenhut D. and Saraiva M. (2021). TD 2673: Trends and inequalities of urban mobility in Brazil I: the use of public and individual transport. [\[Link\]](#)*[In portuguese]*
  - Miranda, A.C. and Vieira J.P.B.(2020).The use of bicycles in the context of urban mobility. p.335 In: Urban mobility: a multidisciplinary approach. Ed. by Cristina Araújo Lima. Curitiba: UFPR. ISBN: 978-65-86233-02-5 *[In portuguese]*
  - Belloto, J.C. A., Nakamori, S. and Vieira, J.P.B. (2020). Public institutions and traffic sources: practices to encourage sustainable mobility at UFPR and CELEPAR. In: Brazilian public management: inovacion and network sustainability. Ed. by Villac, T. v. 1, p. 203-221 *[In portuguese]*
  - Moreira, H.J.; Vieira, J.P.B.; Dittert, L.F.; Miranda, A.C.M.; Reck,Y.B.. Temporary infrastructure for active mobility: Cycle mobility solutions to adapt the streets in the fight against the pandemic. UCB & Cicloiguaçu. Curitiba, 2020. [\[Link\]](#)*[In portuguese]*
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## Congress Articles

- Vieira, J.P.B, Errera M.R., and Daemme L.C. (2019). Air pollutants modeling using bottom-up vehicular emissions inventory. At *25th ABCM International Congress of Mechanical Engineering*. [[Link](#)]
  - Vieira, J.P.B., and Almeida, R.C. (2016). Flow regionalization using Neural Artificial Networks RBF. *1st Symposium of Numerical Methods in Engineering [In portuguese]*
  - Gasparovic, C. L. M.; Ostroski, A. ; Vieira, J. P. B. ; Errera, M. R. . Elementary Constructal Design of a carbon capture systems based on carbonation over fly ashes.. In: *Constructal Law Second Law Conference 2019 CLC 2019, 2019, Porto Alegre*. Proceedings of Constructal Law Second Law Conference - CLC - 2019. Porto Alegre: Unisinos Porto (Brazil), 2019. v. 1. p. 184-187
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### R packages

- Vieira, J.P.B.; Pereira, R.H.M.;Andrade, P.R.(2022) gtfs2emis: Generating estimates of public transport emissions from GTFS data. GitHub [[Link](#)]. [[Autor](#)]
  - Espinosa, S.I.; Vieira, J.P.B. (2021). vein: Vehicular Emissions Inventories. Version 0.9.4. [[Link](#)]. [[Contributor](#)]
  - Pereira, R.H.M.; Andrade, P.R.; Vieira, J.P.B. (2019) gtfs2gps:Converting GTFS data to GPS format. Zenodo[[Link](#)]. [[Autor](#)]
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### Presentations (selected)

- Vieira, J.P.B., Braga, C.K. Access to opportunities project at IPEA (2020). At: Active mobility Forum. [*In portuguese*]
  - Vieira, J.P.B. Opportunities to decrease the overall vehicle emissions (2020). At: Ciclovida program at UFPR. [*In portuguese*]
  - Vieira, J.P.B. Discussing the Curitiba's Cycling Plan (2019). [*In portuguese*]
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### Final Project Undergraduate referee (selected)

- Student Isadora Bergami. "Prediction of Particulate Matter in urban environment using random forest" (2021). Undergraduate program of Environmental Engineering UFPR [*In portuguese*]

## AWARDS & GRANTS

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- 2021 "Enjoy Science UFPR" Award due to master thesis excellence
- 2017-2019 CAPES Studentship for Master Degree at Federal University of Parana (UFPR)
- 2013-2014 Exchange program at University of Waterloo (Canada), Science Without Border program