

Felipe Santos-Marquez

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EDUCATION

Technische Universität Dresden

PhD candidate (Economics). Advisor: Prof. Christian Lessmann

Dresden, Saxony, Germany

April 2021–2025

- Dissertation: “Interdisciplinary Essays in Regional and Development Economics”

University of Oxford, Lady Margaret Hall

Summer program: Advanced Applications of Neural Networks and Deep Learning

Oxford, UK

July–August, 2023

Nagoya University

MA in International Development

Nagoya, Aichi, Japan

2019–2021

- Thesis: “Achieving Peace and the SDGs in Colombia: Municipal Convergence, Crime, and the Role of Conditional Cash Transfers”

Tafe institutions EAA & AITM

Certificate III and IV in hospitality and Management (commercial cookery)

Melbourne & Brisbane, Australia

2013–2014

Universidad Nacional de Colombia

5-year Pregrado in Physics (German equivalent = Diplom programme)

Bogota, Colombia

2007–2012

ACADEMIC AND RESEARCH EXPERIENCE

Technische Universität Dresden

Research Associate at the Chair of Economics esp. International Economics

Dresden, Saxony, Germany

04/2021– 2025

Nagoya University

Research Assistant at the QuaRCS lab

Nagoya, Aichi, Japan

04/2020– 08/2020

- Creation and Maintenance of databases
- Creating shapefiles and data-sets of income and well-being related variables across the world, and Sustainable Development Goals data for Bolivia

Nagoya University

Academic Tutor at the Graduate School of International Development

Nagoya, Aichi, Japan

09/2019– 02/2021

- Tutoring of research, Master’s and PhD students
- Helping students to organize research data and to analyze it using a variety of econometric methods and statistical software

National University of Colombia

Mathematics (Topology and Analysis) tutor at the School of Mathematics, Faculty of Science

Bogota, Colombia

01/2008– 07/2008

- Tutoring of physics undergraduate students
- Preparing and facilitating tutoring workshops and academic support sessions for small groups of students

TEACHING EXPERIENCE

- **Guest lecturer** at Nagoya University January 2025
AI and Deep Learning
- **Technische Universität Dresden** winter 2021 - present
Empirical Economics course programming and replication tutorials - introduction to R - AI and Deep Learning in Python - international trade: theory and policy Tutorials
- **Guest lecturer** at Nagoya University summer 2022
Causal Inference and Policy Evaluation in R
- **Teaching Assistant** at Nagoya University fall 2020
GSID Open Webinar Series and Spanish
- **English Teacher** at Alive English School, Nagoya city, Japan 2017-2021
Preschool, elementary and secondary classes

PUBLICATIONS (PEER-REVIEWED ARTICLES)

- [1] C. Mendez and **F. Santos-Marquez**, “Economic and social disparities across subnational regions of south america: A spatial convergence approach”, *Comparative Economic Studies*, pp. 1–24, 2022, Available at <https://doi.org/10.1057/s41294-021-00181-0>.
- [2] A. Domínguez, **F. Santos-Marquez**, and C. Mendez, “Sectoral productivity convergence, input-output structure and network communities in japan”, *Structural Change and Economic Dynamics*, 2021, Available at <https://doi.org/10.1016/j.strueco.2021.10.012>.
- [3] **F. Santos-Marquez**, “Spatial beta-convergence forecasting models: Evidence from municipal homicide rates in colombia”, *Journal of Forecasting*, 2021, Available at <https://doi.org/10.1002/for.2816>.
- [4] **F. Santos-Marquez**, A. B. Gunawan, and C. Mendez, “Regional income disparities, distributional convergence, and spatial effects: Evidence from indonesian regions 2010–2017”, *GeoJournal*, pp. 1–19, 2021, Available at <https://doi.org/10.1007/s10708-021-10377-7>.
- [5] C. Mendez and **F. Santos-Marquez**, “Regional convergence and spatial dependence across subnational regions of asean: Evidence from satellite nighttime light data”, *Regional Science Policy & Practice*, 2020, Available at <https://doi.org/10.1111/rsp3.12335>.
- [6] **F. Santos-Marquez** and C. Mendez, “Regional convergence, spatial scale, and spatial dependence: Evidence from homicides and personal injuries in colombia 2010-2018”, *Regional Science Policy & Practice*, 2020, Available at <https://doi.org/10.1111/rsp3.12356>.

MASTER THESIS SUPERVISION (TU DRESDEN)

- Lisa-Marie Muller (Dresden, 2021)
Tracing Human Light Investigation of low-intensity nightlight satellite data in rural areas of Rwanda
- Arik Dinesen (Dresden, 2022)
The Economic Impact of Large scale Oil Discovery in Norway
- Kyra F. Riederer (Dresden, 2022)
The effects of the New Rural Pension System on labour supply in China
- Paavo Maria Brummer (Dresden, 2023)
Mobile Internet Coverage and Its Effects on Education Outcomes in Colombia

- Paul Fischer (Dresden, 2023)
Network-centrality and market access of cities – an empirical analysis
- Isabel Knippel (Dresden, 2024)
The effect of the automatic information exchange on economic activity of offshore financial centers
– a view from outer space

CONFERENCE & WORKSHOP PRESENTATIONS

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| • EEA-ESEM
<i>Rotterdam, Netherlands</i> | September –2024 |
| • Japanese Economic Association, spring meeting
<i>Tokyo, Japan</i> | May –2024 |
| • 20th World Congress International Economic Association, EAFIT
<i>Medellin, Colombia</i> | December –2023 |
| • 62nd ERSA Congress, University of Alicante
<i>Alicante, Spain</i> | August–2023 |
| • 4th Swiss Workshop on Local Public Finance and Regional Economics, University of Bern
<i>Bern, Switzerland</i> | October–2022 |
| • 1st International Workshop on the Chinese Development Model, IQS School of Management
<i>Barcelona, Spain</i> | July–2022 |
| • Young Scholars Initiative meeting at International University College of Turin
<i>Torino, Italy</i> | June–2022 |
| • 60th Annual ERSA Congress “Territorial Futures – Visions and Scenarios for a resilient Europe”
<i>Bolzano, Italy</i> | August–2021 |
| • ERSA Summer School 2021 - Spatial Analysis of Regional Inequalities
<i>Groningen, Netherlands</i> | June-July–2021 |
| • XV World Conference of Spatial Econometrics Association
<i>Tokyo, Japan</i> | May–2021 |
| • 57th Conference of the Japan Society of Social Science on Latin America
<i>Nagoya, Japan</i> | November–2020 |
| • Bolivian Conference on Development Economics
<i>La Paz, Bolivia</i> | August–2020 |
| • Applied Regional Science Conference
<i>Saga University, Saga, Japan</i> | November–2019 |

RESEARCH VISITS

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|---|-------------------------------|
| • Graduate School of International Development, University of Nagoya, Japan | About twice a year from –2021 |
| • Asian Growth Research Institute (AGI), Kitakyushu, Japan | September –2022 |
| • AQR Research Group, University of Barcelona, Spain | July –2021 |
| • Universidad de los Andes, Bogota, Colombia | December –2019 |

AWARDS

- Prize of the Deutsche Bundesbank for support for international research cooperation June –2021
- Travel award for a workshop given by the TU Dresden Graduate Academy January –2023
- Travel award for a summer school given by the TU Dresden Graduate Academy July –2023
- Travel award for transportation expenses for a summer school given by the Association of Friends and Sponsors of TU Dresden e. V. July –2023
- Lecture award given by the German Economic Association (Verein für Socialpolitik) December –2024

COMPUTER SKILLS

- **Programming:** R, Python, c++, Stata and Matlab
- **User:** GitHub, Geoda and QGIS

LANGUAGES

- **Spanish:** Native proficiency level
- **English:** Native proficiency level
- **Japanese:** Limited working proficiency
- **German:** Limited proficiency

FIRM VISITS

As part of the Deep Learning course, I organized student visits to firms in the semiconductor industry and Silicon Saxony to show students how AI methods are used in industry.

- Student visit to Bosch Dresden January –2025
https://tu-dresden.de/bu/wirtschaft/vwl/iwb/die-professur/news/student-visit-to-bosch-dresden?set_language=en
- Student visit to Infineon Dresden February –2024
https://tu-dresden.de/bu/wirtschaft/studium/news-1/student-visit-to-infineon-dresden?set_language=en

EXTRACURRICULAR AND ACADEMIC ACTIVITIES

- Data@ANZ ANZ virtual experience Program August–2020
Completed two practical task modules in
Exploratory Data Analysis
Predictive Analytics.
- DataCamp courses- completed several online courses in: 2019 –present
Multiple and Logistic Regressions in R
Cluster Analysis in R
Supervised Learning in R: Regression
Supervised Learning in R: Classification
Unsupervised Learning in R
Spatial Analysis with sf and raster in R.

Visualizing Geospatial Data in R
Working with Web Data in R
Intermediate Python
Data Manipulation with pandas
Joining data with pandas
Network Analysis in R
Introduction to Data Visualization with Matplotlib
Machine Learning in the Tidyverse
Introduction to Functions in Python
Python Toolbox
Introduction to Data Visualization with Seaborn
Fundamentals of Bayesian Data Analysis in R
Supervised Learning with scikit-learn
Introduction to Deep Learning with Pytorch