**Osmar Bolivar Rosales**

Economist

La Paz, Bolivia

+591 69900027

[osmar.economics@gmail.com](mailto:osmar.economics@gmail.com); [osmar.jsmpf@gmail.com](mailto:osmar.jsmpf@gmail.com)

Experienced Economist with expertise in economic research, policy analysis, and data-driven decision-making. Skilled in leading AI-driven projects and applying advanced econometric methods to macro and microeconomic analysis. Proven ability to conduct socio-economic assessments and design data governance frameworks. Committed to evidence-based policy-making and sustainable development. Experienced in collaborating with international organizations and providing technical insights for public policy in Bolivia.

**Website and Online Profiles**

* <https://osmarbolivar.github.io/>
* <https://www.linkedin.com/in/osmar-bolivar-rosales/>
* <https://github.com/osmarbolivar>

**Skills**

Critical Thinking │ Problem Solving │ Machine Learning │ Econometrics │ Remote Sensing │ Public Policy

**Work History**

**Lead Specialist in AI for Economic Research [02/2024 – Current]**

MINISTERIO DE ECONOMÍA Y FINANZAS PÚBLICAS, Bolivia

* Lead the design and implementation of AI projects focused on economic research, providing insights for evidence-based decision-making in areas such as economic growth, inflation, welfare, and others.
* Spearhead the establishment of a comprehensive data governance framework, optimizing ETL processes, data visualization, and business intelligence to enhance ministry-wide efficiency and productivity.
* Develop predictive models and advanced analytics to inform policy decisions, improving the ministry's responsiveness to economic challenges.

**Lead Researcher [05/2021 – 02/2024]**

MINISTERIO DE ECONOMÍA Y FINANZAS PÚBLICAS, Bolivia

* Conducted in-depth assessments of socioeconomic phenomena and public policies, utilizing advanced econometric methods and machine learning algorithms.
* Delivered critical technical inputs directly to the Minister of Economy, influencing key policy decisions.
* Authored research articles for "Cuadernos de Investigación Económica Boliviana," contributing to the academic and policy discourse on economic issues.

**Consultant - Economic Integration in Latin America Project [2020 –2021]**

DEVELOPMENT BANK OF LATIN AMERICA (CAF)

* Developed research assessing the impact of transport infrastructure on economic growth in Bolivia, Ecuador, and Paraguay, using econometric methods and remote sensing data from satellite imagery.
* Provided empirical evidence and policy recommendations for regional economic integration efforts.

**Economist - Economic Modelling [08/2017 – 02/2021]**

UNIDAD DE ANÁLISIS DE POLÍTICAS SOCIALES Y ECONÓMICAS (UDAPE), Bolivia

* Led research initiatives on socioeconomic policies and macroeconomic analysis, developing sophisticated statistical and econometric models.
* Collaborated with international organizations, including CAF and the United Nations Population Fund, to publish studies and reports.
* Provided comprehensive economic forecasts and analyses, supporting policy formulation and implementation.

**Consultant - Strengthening Economic Development Research in Bolivia [2019]**

DEVELOPMENT BANK OF LATIN AMERICA (CAF)

* Conducted research using spatial econometric techniques to evaluate the effectiveness of local-level public investment and its externalities.
* Generated actionable insights for enhancing the efficiency of decentralization policies in Bolivia.

**Researcher [01/2015 – 08/2016]**

MINISTERIO DE ECONOMÍA Y FINANZAS PÚBLICAS, Bolivia

* Conducted rigorous econometric analyses of socioeconomic policies, providing essential technical inputs for policy-making.
* Published research findings in "Cuadernos de Investigación Económica Boliviana," contributing to the understanding of Bolivia's economic landscape.

**Economist - Real Sector of the Economy [04/2013 – 12/2014]**

UNIDAD DE ANÁLISIS DE POLÍTICAS SOCIALES Y ECONÓMICAS (UDAPE), Bolivia

* Researched the real sector of the economy, analyzing data and trends to support economic planning and policy development.
* Conducted theoretical and statistical analyses to inform policy decisions regarding Bolivia's economy.

**Economist - Fiscal Sector of the Economy [10/2012 – 12/2012]**

UNIDAD DE ANÁLISIS DE POLÍTICAS SOCIALES Y ECONÓMICAS (UDAPE), Bolivia

Analyzed fiscal sector data, preparing reports and analytical documents to support economic policy development.

**Technical Assistant - Fiscal Sector of the Economy [09/2011 – 09/2012]**

UNIDAD DE ANÁLISIS DE POLÍTICAS SOCIALES Y ECONÓMICAS (UDAPE), Bolivia

Managed databases and prepared statistical reports on the fiscal sector, supporting the formulation of fiscal policy.

**Education/Teaching**

**EDUCATION:**

* **Master of Arts in Policy Economics** **[2016 - 2017]**

WILLIAMS COLLEGE, Massachusetts, USA

* **Master of Science in Applied Economics** **[2015 - 2016]**

UNIVERSIDAD ANDINA SIMÓN BOLIVAR, Bolivia

* **Postgraduate Diploma in Preparation and Evaluation of Public Investment Projects** **[2015]**

UNIVERSIDAD PRIVADA BOLIVIANA, Bolivia

* **Postgraduate Diploma in Public Management of Productive Development** **[2014]**

ESCUELA DE GESTIÓN PÚBLICA PLURINACIONAL, Bolivia

* **Postgraduate Diploma in Evaluation of Social Policies** **[2013]**

UNIVERSIDAD CATÓLICA BOLIVIANA, Bolivia

* **Postgraduate Diploma in Applied Economics** **[2012]**

ESCUELA MILITAR DE INGENIERÍA, Bolivia

* **Bachelor’s Degree in Economics** **[2006 - 2010]**

UNIVERSIDAD MAYOR DE SAN ANDRÉS, Bolivia

**TEACHING:**

* **Professor – Fiscal Sector** **[2024]**

*Master in Applied Economics and Public Policy*

UNIVERSIDAD ANDINA SIMÓN BOLIVAR

**Papers**

**PEER-REVIEWED JOURNAL ARTICLES:**

* Bolivar, O. (2024). **“GDP Nowcasting: A machine learning and remote sensing data-based approach for Bolivia”**. *Latin American Journal of Central Banking*, 5(3). 100126
* Bolivar, O., Huanto, C. & Teran, R. (2023). **“Expectativas de inflación: Dinámica y efectos para América del Sur”**. *Cuadernos de Investigación Económica Boliviana*, 6(1).
* Bolivar, O. (2023). **“Dinámica Inflacionaria, Crecimiento Económico y Empleo en los contextos de pandemia y pospandemia para América del Sur”**. *Revista de Análisis del Banco Central de Bolivia (Forthcoming)*.
* Bolivar, O. (2022). **“Efecto Multiplicador: Evidencia empírica para una asignación costo-efectiva de la inversión pública”**. *Cuadernos de Investigación Económica Boliviana*, 5(2): 7-64.
* Bolivar, O. (2021). **“Boyanza Tributaria: Relación con la sostenibilidad fiscal y estabilizadores automáticos”**. *Cuadernos de Investigación Económica Boliviana*, 4(2): 53-95.
* Bolivar, O. (2016). **“Bolivianization and Effectiveness of the Monetary Policy”**. *Cuadernos de Investigación Económica Boliviana*, 1(2): 55-98.
* Bolivar, O. & D. Ugarte (2015). **“Domestic Demand as Engine of the Economic Growth in Bolivia”**. *Cuadernos de Investigación Económica Boliviana*, 1(1): 7-44.
* Ugarte, D. & Bolivar, O. (2015). **“The Effect of Income Redistribution on Poverty Reduction of Bolivia”**. *Cuadernos de Investigación Económica Boliviana*, 1(1): 45-80.
* Ugarte, D. & Bolivar, O. (2015). **“La Relación Precio del Petróleo y Crecimiento Económico en Bolivia: El Rol de la Política Económica”**. *Revista de Análisis del Banco Central de Bolivia*, 22(1): 9-40.

**CHAPTERS IN BOOKS:**

* Bolivar, O. & Mendez, C. (2024). **“Predicting community-level poverty in Bolivia: Insights from satellite imagery, census data, and spatial modeling”**. Nagoya University, *Revisiting the Poverty-Growth-Inequality Triangle in the Post-Pandemic Era (in progress)*. Japan: Routledge – Taylor & Francis Group.
* Bolivar, O. (2020). **“Evaluación de impacto de la infraestructura vial en el crecimiento económico: Una aproximación con base en información satelital de luminosidad para Bolivia”**. CAF-UDAPE, Osmar Bolivar (Ed.), *Evaluación de impacto de la infraestructura vial en Bolivia (págs. 11-70)*. La Paz, Bolivia.
* Bolivar, O. & Ugarte, D. (2020). **“Evaluación de impacto de la infraestructura vial sobre las condiciones socioeconómicas de la población”**. CAF-UDAPE, Osmar Bolivar (Ed.), *Evaluación de impacto de la infraestructura vial en Bolivia (pp. 71-117)*. La Paz, Bolivia.
* Ugarte, D. & Bolivar, O. (2019). **“Descentralización en Bolivia: Eficacia y externalidades”**. CAF-INESAD-ABCE & Beatriz Muriel (Ed.), *Investigaciones para el Desarrollo Económico de Bolivia (pp. 113-168)*. La Paz, Bolivia.

**WORKING PAPERS:**

* Bolivar, O. (2024). **“Weekly Inflation Forecasting: A Two-Step Machine Learning Methodology”**. *Submitted to the Call for Papers: 2024 CEMLA Central Bank Award*.
* Bolivar, O. & Huanto, C. (2024). **“Tensiones Geopolíticas: Efectos Macroeconómicos en Bolivia, Chile y Perú”**. *Submitted to the Call for Papers: 2024 Meeting of Economists of Bolivia - Central Bank of Bolivia*.
* Bolivar, O. (2023). **“Evolución de la pobreza en las comunidades de Bolivia entre 2012 y 2022: Un enfoque de machine learning y teledetección”**. *MPRA Paper from University Library of Munich*.
* Bolivar, O. (2022). **“Roads illuminate development: Using nightlight luminosity to assess the impact of transport infrastructure”**. *Research Department Working Papers 1910, CAF*.
* Bolivar, O. (2017). **“Desdolarización en Bolivia: Interacción con la Política Monetaria y el Tipo de Cambio”**. *Submitted to the Call for Papers: 2017 Meeting of Economists of Bolivia - Central Bank of Bolivia*.

**Acknowledgements**

* **First Place, 2023 Central Bank Award by the Center for Latin American Monetary Studies (CEMLA)** for the research "GDP Nowcasting: A Machine Learning and Remote Sensing Data-Based Approach for Bolivia."
* **First Place, 2022 Meeting of Economists of Bolivia by the Central Bank of Bolivia** for the research "Dinámica Inflacionaria, Crecimiento Económico y Empleo en los Contextos de Pandemia y Pospandemia para América del Sur."
* **Finalist, Research Proposal Call "Integration in Latin America: The Role of Regulations, Administrative Procedures, and Physical Infrastructure" by the Development Bank of Latin America (CAF)** for the research "Roads Illuminate Development: Using Nightlight Luminosity to Assess the Impact of Transport Infrastructure."
* **Winner, Research Proposal Call "Research on Economic Development in Bolivia" by the Development Bank of Latin America (CAF)** for the research "Descentralización en Bolivia: Eficacia y Externalidades."
* **First Place, 2015 Meeting of Economists of Bolivia by the Central Bank of Bolivia** for the research "La Relación Precio del Petróleo y Crecimiento Económico en Bolivia: El Rol de la Política Económica."

**Certifications Courses**

* **DEEP LEARNING SPECIALIZACTION** — *DeepLearning.AI* **[2024]**
  + Course 1: Neural Networks and Deep Learning
  + Course 2: Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization
  + Course 3: Structuring Machine Learning Projects
  + Course 4: Convolutional Neural Networks
  + Course 5: Sequence Models
* **MACHINE LEARNING SPECIALIZACTION** — *DeepLearning.AI & Stanford University* **[2023]**
  + Course 1: Supervised Machine Learning: Regression and Classification
  + Course 2: Advanced Learning Algorithms
  + Course 3: Unsupervised Learning, Recommenders, Reinforcement Learning
* **MULTIDISCIPLINARY PROGRAM IN DATA, PROGRAMMING AND ARTIFICIAL INTELLIGENCE** — *Buenos Aires University - Innovation and Artificial Intelligence Laboratory,* Argentina **[2022]**
  + Course 1: Data Governance
  + Course 2: Artificial Intelligence Governance
  + Course 3: Design and Deployment of Artificial Intelligence
* **TRAINING COURSE ON SPACE TECHNOLOGY FOR BOLIVIA** — *Wuhan Research Institute of Posts and Telecommunications*, China **[2022]**
* **R AND GIS (Programming in R for management of Geographic Information Systems)** — *MAPPINGGIS* (QGIS Sponsors and Certified Training Institution), Spain **[2020]**
* **REMOTE SENSING IN QGIS (Processing information from satellite imagery)** — *MAPPINGGIS* (QGIS Sponsors and Certified Training Institution), Spain **[2019]**
* **DYNAMIC STOCHASTIC GENERAL EQUILIBRIUM MODELS** — International Monetary Fund **[2018]**
* **IMPACT EVALUATION OF SOCIAL POLICIES** — *Abdul Latif Jameel Poverty Action LAB – J-PAL* **[2014]**

**Academic References**

**WILLIAMS COLLEGE**, Massachusetts, USA

* Professor **PETER PEDRONI**

*Department of Economics and Center for Development Economics*

[ppedroni@williams.edu](mailto:ppedroni@williams.edu) +1 413-597-2449

* Professor **PETER MONTIEL**

*Department of Economics and Center for Development Economics*

[pmontiel@williams.edu](mailto:pmontiel@williams.edu) +1 413-597-2103

**Programming, Softwares & Languages**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

* Python

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

* R

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

* QGIS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

* Stata

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

* MATLAB (Dynare)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

* Latex (Overleaf)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

* Spanish (native)
* English