JOHN KEVIN BARRERA CONTRERAS

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PROFILE

Computer Scientist from Peru with 7+ years of experience in data science, machine learning, and systems architecture. Currently pursuing a Master's in Social Policy with a specialization in Social Projects at UNMSM, while building on my previous work as a consultant for The World Bank on healthcare accessibility research in developing countries. Background combines technical depth in AI and big data with a strong commitment to social impact, shaped by growing up in a rural Andean community. Published researcher with industry experience at unicorn tech companies and international organizations across Latin America and the United States.

EDUCATION

Master in Social Policy, specialization in Social Projects 2025 - Present
Universidad Nacional Mayor de San Marcos (UNMSM) *Currently enrolled*

Master of Computer Science, Pontificia Universidad Católica del Perú (PUCP) 2022 - 2023
Thesis: Spatio-temporal analytics and ML methodology for evaluating telecommunications quality and e-health connectivity feasibility in Peru.

Bachelor of Systems Engineering, Universidad Nacional Mayor de San Marcos 2012 - 2017
Top public university in Peru.

Economics and Business (Exchange), Universidad de Chile 2016
Recipient of the Pacific Alliance Scholarship (merit-based, awarded by the governments of Peru, Chile, Colombia, and Mexico).

RESEARCH & SOCIAL IMPACT

Data Scientist Consultant Jan 2023 - Dec 2025
The World Bank *Lima & Washington D.C.*

- Led research on healthcare accessibility in developing countries, building mathematical models using graph theory and machine learning to measure population risk and distance to health services.
- Integrated large-scale geographic datasets with AI models and benchmarked results against methods used by the countries under study. Work covered multiple countries across different continents.
- This research is directly connected to my master's thesis and resulted in a peer-reviewed publication.

Data Scientist Apr - Sep 2020
Research Center, Universidad del Pacífico *Lima, Peru*

- Collaborated on World Bank research projects. Results published in "Analysis of the Health Network of Metropolitan Lima Against Large-Scale Earthquakes".
- Worked with Peru's PCM (Presidency of the Council of Ministers) on COVID-19 contact tracing and contagion probability analysis based on population interactions.
- Simulated disaster scenarios and optimized emergency routes using graph theory for metropolitan Lima.
- Contributed to NLP and unsupervised learning research on consumer behavior analysis.
- Research on Blockchain: created a cryptocurrency from a Bitcoin fork and developed Dapps on Ethereum for educational purposes.

RELEVANT INDUSTRY & TECHNICAL EXPERIENCE

Data Architect Aug 2021 - Dec 2024
Globant (Unicorn, NYSE: GLOB) *Latam & USA*

- Built data architecture for Liga MX using Azure, Databricks, Python, and SQL. Designed pipelines connecting multiple data sources to enable data-driven decision making.
- Designed and constructed a data platform for BICE (Chilean bank) on Google Cloud, enabling large-scale batch processing and data governance.
- Collaborated on PoC development and data taxonomy definition for InStride's platform.

Data Engineer Oct 2020 - Aug 2021
Rappi (Unicorn, largest Latin American super-app) *Lima, Peru*

- Provided data engineering support for RappiBank across LATAM, building solutions and pipelines using Snowflake, S3, Spark, Airflow, and Neo4j.
- Focused on graph-based data storage and data governance to support analytical models requiring geographical, degree-of-separation, and transaction data.

Systems Engineer Intern Aug 2017 - Dec 2017
ONPE (National Office of Electoral Processes) *Lima, Peru*

- Developed ETL processes for cleaning, validating, and storing financial reports from political organizations, cross-referencing with RENIEC (national identity database).

PUBLICATIONS

- **Analysis of the Health Network of Metropolitan Lima Against Large-Scale Earthquakes**
  Examined Lima's health system capacity from three complementary perspectives to provide elements for strengthening Peru's health infrastructure against seismic events. Published in Springer. ISBN: 978-3-030-76228-5
- **Spatio-temporal Analytics and Machine Learning Methodology for Evaluating Telecommunications Network Service Quality and Determining e-Health Connectivity Feasibility**
  Master's thesis proposing a methodology that integrates spatio-temporal data analysis and machine learning to evaluate the quality of digital infrastructure for deploying e-health applications in Peru, emphasizing the growing relevance of telemedicine following the COVID-19 pandemic. Pontificia Universidad Católica del Perú, 2024.

SELECTED PROJECTS

PCM - MINSA: Contact tracing system "Peru in your hands" for COVID-19 national response.

The World Bank: Multi-country health network analysis and earthquake resilience modeling.

VacBs (INIA/UP/UALM): Mobile app using neural networks for cattle milk production optimization in rural communities. **Press release**.

EsanCoin/CiupCoin: Educational cryptocurrency based on Bitcoin fork. **Video tutorial**.

TECHNICAL SKILLS

Languages	Python, SQL, R, Julia, JavaScript
ML/AI	Scikit-learn, TensorFlow, NLP, Graph Neural Networks, Unsupervised Learning
Data Engineering	Spark, Airflow, Kafka, Databricks, Snowflake, Neo4j
Cloud	AWS (S3, Glue), Google Cloud, Azure
Research	Mathematical modeling, Graph theory, Geospatial analysis, Statistical methods

AWARDS & SCHOLARSHIPS

- **Pacific Alliance Scholarship** (2016): Merit-based international exchange program funded by the governments of Peru, Chile, Colombia, and Mexico. Studied Economics and Business at Universidad de Chile.