Alexandra Carolina Marcos Quispe

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PERSONAL PROFILE

A committed and proactive economist with a strong passion for pursuing a PhD in Management, Science and Engineering. A current project manager and research assistant motivated to study the implementation of algorithms in addressing economic and social challenges, specifically interested in the Computational Social Science area. Passion for econometrics which increased after earning the highest mark in the Applied Econometrics course and completing a research internship at the Central Bank of Peru. Experienced in machine learning models in justice agencies, as well as presenting at a conference and assisting in the development of research papers.

EDUCATION

Pontificia Universidad Católica del Perú (PUCP)   *Lima, Peru*
B.A. Economics   Mar 2020
Graduated First in Class and top 5% in the program history (since 1970).
GPA: 15.24/20.00

- Relevant Coursework: Microeconomics 1, Microeconomics 2, Macroeconomics 1, Macroeconomics 2, Applied Econometrics, Advanced Econometrics: Time Series and Intermediate Econometrics.

Universidad de los Andes   *Bogota, Colombia*
Exchanges Studies   Jan - Jun 2018
Fully funded by the Economics Department and the Alianza del Pacífico Scholarship.
GPA: 4.33/5.00

- Relevant Coursework: Matlab workshop, Development Policies Seminar through the ELCA Database, and Social Project Evaluation Seminar.

RESEARCH EXPERIENCE

Research Assistant   *Remote*
Msc. Alexander Quispe   Oct - Nov 2021
- Contributed to the development of a machine learning handbook with Python and R applications.
- Participated in the professor's Machine Learning course, acquiring knowledge of ML models and their applications.

Research Assistant   *Remote*
Prof. Alisha Holland, Harvard University   Nov 2020 - Jun 2021
- Structured data using R on Peruvian public works projects and analyzed discontinuities in project creation following the establishment of the National Public Investment System (SNIP).
- Built a Twitter scraper using Python to collect presidential and regional candidates' tweets from three electoral processes and countries: Peru, Colombia and Ecuador.
- Developed a label classifier using Python to identify four categories: public work projects, welfare, job creation, and economic growth.

Research Assistant   *Remote*
Msc. Victor Gamarra   Oct - Dec 2020
- Assisted in the development of a working paper for the Peruvian National Council for Science, Technology, and Technological Innovation (CONCYTEC). It explores how R&D+I influences economic growth and identifies the sectors that contribute the most to it.

- Defined the methodological framework, systematized the literature review, and estimated key indicators of R&D+I using survey data from Peru and Chile.

Research Assistant *Remote*
Phd. Jose Incio, University of Pittsburgh Jun - Oct 2020
- Built a Twitter scraper in Python to collect tweets mentioning government representatives and structured the output for a sentiment analysis.
- Estimated the COVID-19 virus spread rate using a SIRD model based on the methodology of Jesús Fernández-Villaverde and Charles I. Jones (2022).
- Collaborated on the construction of a COVID-19 library using R that systematized and simplified the cleaning process of Peruvian data.

Research Assistant *Lima, Peru*
Prof. Marco Vega, The Central Reserve Bank of Peru (BCRP) May - Jul 2020
- Estimated the COVID-19 death toll in Peru using a Poisson regression model based on the methodology of Weinberger et al. (2020), with the model coded appropriately in R.
- Forecasted the weekly evolution of the COVID-19 pandemic at the regional level and identified the most affected regions using the methodology of Weinberger et al. (2020), with the model coded efficiently in R.
- Developed a scraper in Python to collect financial data on public works projects in Peru.

Research Intern *Lima, Peru*
The Central Reserve Bank of Peru (BCRP) Oct 2018 - Set 2019
- Conducted research on the response of online prices in response to exchange rate fluctuations in retail stores, with the analysis coded in R.
- Presented the findings at the National Economist Conference to a specialized audience.
- Developed a scraper in R to collect news from Peruvian analytical and opinion newspapers.
- Conducted research on the impact of BCRP communication on market expectations by applying Structural Topic Modeling (STM) and Natural Language Processing (NLP) to BCRP-related news and Inflation Reports.

PROFESSIONAL EXPERIENCE

Senior Project Manager - Consultancy *Remote*
Columbia University in the City of New York May 2023 - Present
- Planned the entire project's activities, involving five decision-making algorithms, using the agile methodology.
- Directed a team of six professionals to implement five decision-making algorithms to improve the triage and evaluation of whistleblower complaints.
- Mitigated the CGR representatives' mistrust of adopting algorithms in their workflow by explaining the variables behind each model and reviewing the predictions of randomly selected cases.

Senior Data Scientist *Remote*
Auditor General of the Peruvian Government (CGR) Aug 2022 - Apr 2023
- Collaborated in the approach of the algorithm that prioritises the complaints of CGR's whistleblower system.
- Elaborated the architecture design of the web service, where algorithms predict and give real-time recommendations to the officials.
- Contributed in and automated the cleaning process of the whistleblower system's database using SQL SIS, reducing data processing time by 80%.
- Contributed to the development of a Python library for feature engineering the whistleblower database, reducing processing time by 50% and improving notebook readability.
- Created six machine learning algorithms to predict the likelihood being admitted for further evaluation using text embedding and readability indexes from the complaint descriptions.

Senior Pricing Analyst *Lima, Peru*
Scotiabank Peru Jan - Jun 2022
- Supported the project "Pricing Avanzado" in the creation of the mock-up solution.
- Created dashboards of disbursements and prices for retail products in PowerBi and Excel.
- Analyzed the daily evolution of disbursements and prices to alert of any potential drop in monthly sales.

Programming Assistant of Public Budget *Lima, Peru*
Ministry of Economics and Finances of Peru (MEF) Dec 2021 - Dec 2022
- Automated historical revenue data cleaning process of public entities at the national, regional, and district levels from 2010 to 2020.
- Forecasted the revenue of public entities for the period 2022-2024, coded proficiently in R.
- Contributed to the development of public budget "Programación Multianual de Presupuesto 2022-2024".

AWARDS AND SCHOLARSHIPS

Excellence Award 2019-II. Faculty of Social Sciences Apr 2021
Pontificia Universidad Católica del Perú (PUCP)
Awarded to the undergraduate student with the highest GPA in the major.

Alianza del Pacífico Scholarship Jan 2018
Awarded a full scholarship to pursue an academic exchange program in Colombia.

LEADERSHIPS AND ACTIVITIES

MakerLab *Lima, Peru*
Mentor and Member May - Dec 2023
- Mentor, Innova & Business Fest Hackathon Mibanco - PUCP: "Disruption in Liabilities"
- Mentor, Social Sciences Innovation Challenge - PUCP: "Combating Local Economic Corruption through New Technologies"
- Mentor, Second Environmental Innovation Challenge: "Sustainable Campus PUCP"

AIESEC *Lima, Peru*
OGX Member of the PUCP Local Committee. Jun - Oct 2017
- Communicated the importance of volunteering and internships to undergraduate students and how these challenging experiences impact their personal and professional development.

Peruvian Economic Association (APE) *Lima, Peru*
Annual Conference of the Peruvian Economic Association Aug 2016
- Supported event logistics and addressed attendee inquiries.

RELEVANT SKILLS

Technical
- Proficient in R, Python, C, Matlab, JavaScript, SQL (PostgreSQL, SQL Server), and Stata.
- Experienced with GitHub and GitHub Actions and built web technologies with HTML, CSS, Flask, React, and Django.
- Developed with Linux, Ubuntu, and PowerShell and used tools such as Docker and Postman.

Language
Spanish (Native) and English (Proficient)

CONFERENCE PRESENTATIONS

"Exchange Rate Pass-through of Online Prices", The Central Reserve Bank of Peru (BCRP), Universidad del Pacífico, October 2019.